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Soil
Conservation
Service

Washington Basin Outlook Report April 1, 1993

Basin Outlook Reports
and
Federal - State - Private
Cooperative Snow Surveys

For more water supply and resource management information, contact:

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Soil Conservation Service
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How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

Washington
Water Supply Outlook

April 1993

General Outlook

APRIL 1, 1993: March made a change in the weather with temperatures above normal and precipitation remaining below the norm. March precipitation was 87% of normal state wide, and varied from 15% of average in the Okanogan Basin to 114% in the Yakima Basin. Year-to-date precipitation varies from 92% in the Walla Walla to 62% in the Okanogan Basin. Forecasts for 1993 runoff vary from 95% of average for the Walla Walla River to 54% for the Similkameen River. The snowpack varies from 46% in the Olympic Basin to 110% in the Ahtanum Basin. Washington SNOTEL sites averaged 76% of normal snowpack on April 1, down from 86% on March 1 (by April 8, the statewide average was 78%). March temperatures were above normal and varied from one degree below in the White-Green Basin to 3 degrees above in the Walla Walla Basin. March streamflows varied from 130% of normal on the Grande Ronde River to 46% on the Methow River. April 1 reservoir storage is generally poor throughout the state, with reservoirs in the Yakima Basin at 48% of average and 34% of capacity.

Snowpack

The April 1 SNOTEL reading showed the snowpack to be 76% of average. Snowpack continues to vary over the state. The Colville River Basin had 107% of average, and the Ahtanum Basin had the highest with 110% of normal. The North Puget River basins had 62% of average. The Olympic Peninsula rivers were the lowest with 46% of normal, down from 57% last month. Snowpack along the east slopes of the Cascade Mountains includes the Yakima with 74%, down from 76% last month, and the Wenatchee 70%, down from 73%. Snowpack in the Okanogan is at 78%, down from 85%, and the Spokane Basin at 74%, down from 90%. Maximum snow cover is at Paradise on Mount Rainier, with a water content of 55.1 inches. This site would normally have 62.1 inches of water content on April 1.

Precipitation

March precipitation reported from National Weather Service stations was 87% of average statewide. The year-to-date precipitation statewide is 74% and varied from 92% of normal in the Walla Walla Basin, to 62% in the Okanogan Basin. March precipitation varied from 15% of average in the Okanogan Basin, to 114% in the Yakima Basin. SNOTEL sites in Washington showed high elevation year-to-date precipitation values to be 72%. Maximum year-to-date precipitation was at the June Lake SNOTEL site near Mt. St. Helens, with 92.9 inches since October 1, 1992; normal for this site is 118.2 inches.

Reservoir

Reservoir storage in Washington is much below average for April 1. Cold weather has reduced the streamflow entering the reservoirs. Reservoir storage in the Yakima Basin was 358,400 acre feet, 48% of normal. Storage at other reservoirs include Roosevelt at 184% of average, and the Okanogan reservoirs at 89% of normal for April 1 . The power generation reservoirs contain the following: Coeur d'Alene Lake, 225,500 acre feet, or 133% of normal; Chelan Lake, 143,600 acre feet, 68% of average and 21% of capacity, and Ross Lake at 205% of average, and 44% of capacity.

Streamflow

March streamflows varied throughout Washington. The Grande Ronde River at 130% was the highest and the Methow River with 46%, was the lowest in the state. Other streamflows were the following percentage of normal: the Lewis River, 129%; the Okanogan River, 52%; the Spokane River, 105%; the Columbia at the Canadian border, 78%,. and the Yakima River at Kiona, 75%. Forecasts for summer streamflow are for much below-to-near average and vary from 95% of average for the Walla Walla River to 54% of normal for the Similkameen River. April forecasts for some west side streams include: Skagit River, 73%; Lewis River, 75%; and the Dungeness River, 68%. Some east side streams include the Naches River at Naches, 68%; the Stemilt, 80%; the Spokane River, 68% and the Colville River, 78%.

Other Information

The SNOTEL data collection system is entering the final phase of an extensive upgrade which began in 1987. This activity will culminate this spring and summer with the replacement of the two master stations and the Portland central computer, and the upgrade of all remote site transceivers. Beginning the week of May 10th, the Boise master station will be shut down and retrofitted, leaving the Ogden master station to carry the system load through part of the summer. No more than a two to three percent drop in site reporting response is expected, and the entire process should be nearly transparent to most SNOTEL data users. By the end of the summer of 1993, both master stations, the Portland central computer, and all remote sites will be replaced or upgraded. The benefits of this activity include improved equipment reliability, additional sensor capability, and improved system flexibility. For more information, please contact your local Soil Conservation Service Snow Survey office.

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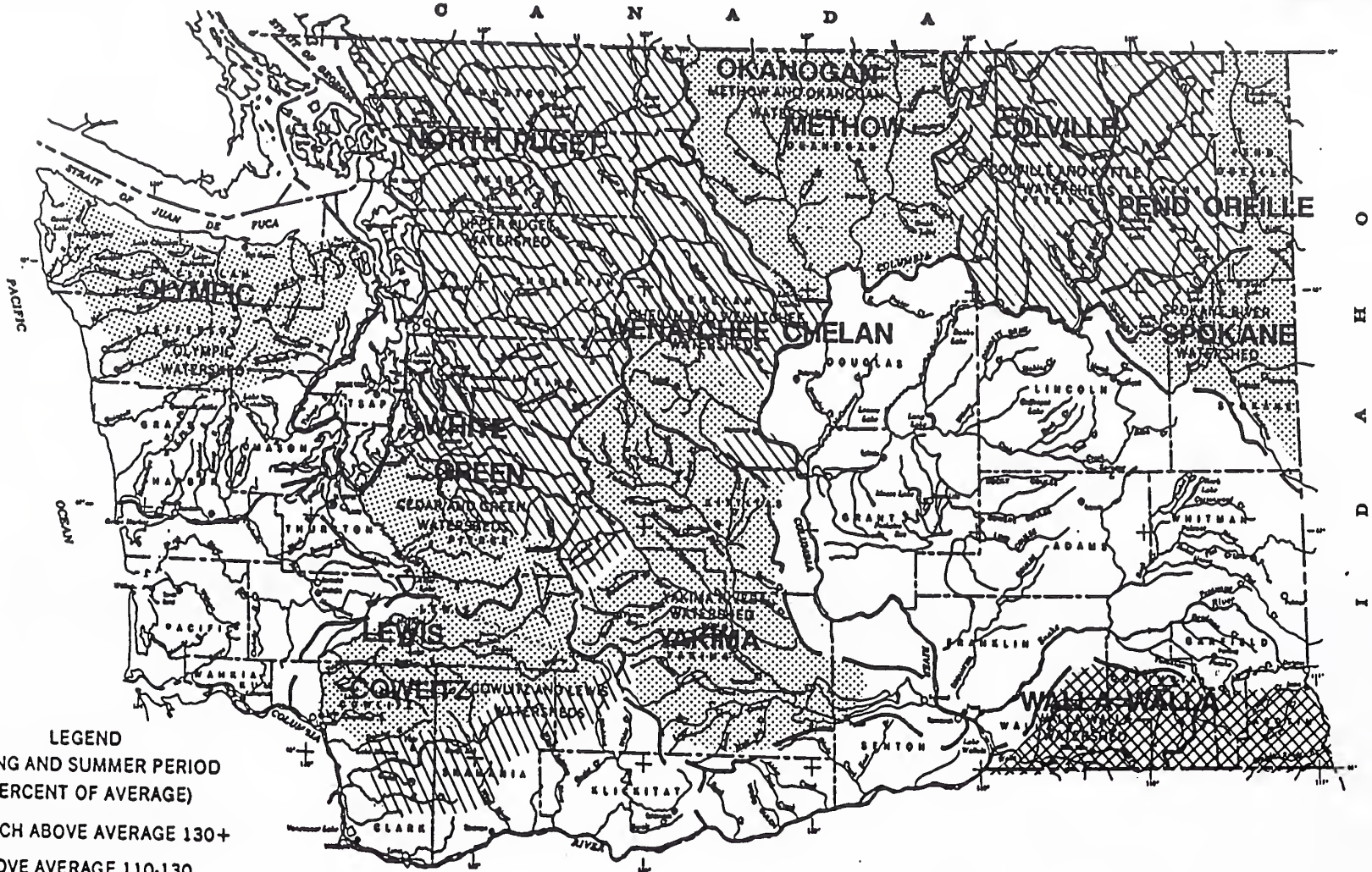


LEGEND
SPRING AND SUMMER PERIOD
(PERCENT OF AVERAGE)

- MUCH ABOVE AVERAGE 130+
- ABOVE AVERAGE 110-130
- NEAR AVERAGE 90-110
- BELOW AVERAGE 70-90
- MUCH BELOW AVERAGE 70+ LESS
- NOT FORECAST
- WATERSHED BOUNDARY

APRIL 1, 1993
STREAMFLOW PROSPECTS
WASHINGTON

0 25 50 75 100 MI

0 50 100 150 KM

SOURCE: *Data compiled by SCS Field Personnel*

JANUARY 1986 4-R-39641

BASE 4-R-39260

BASIN SUMMARY OF SNOW COURSE DATA

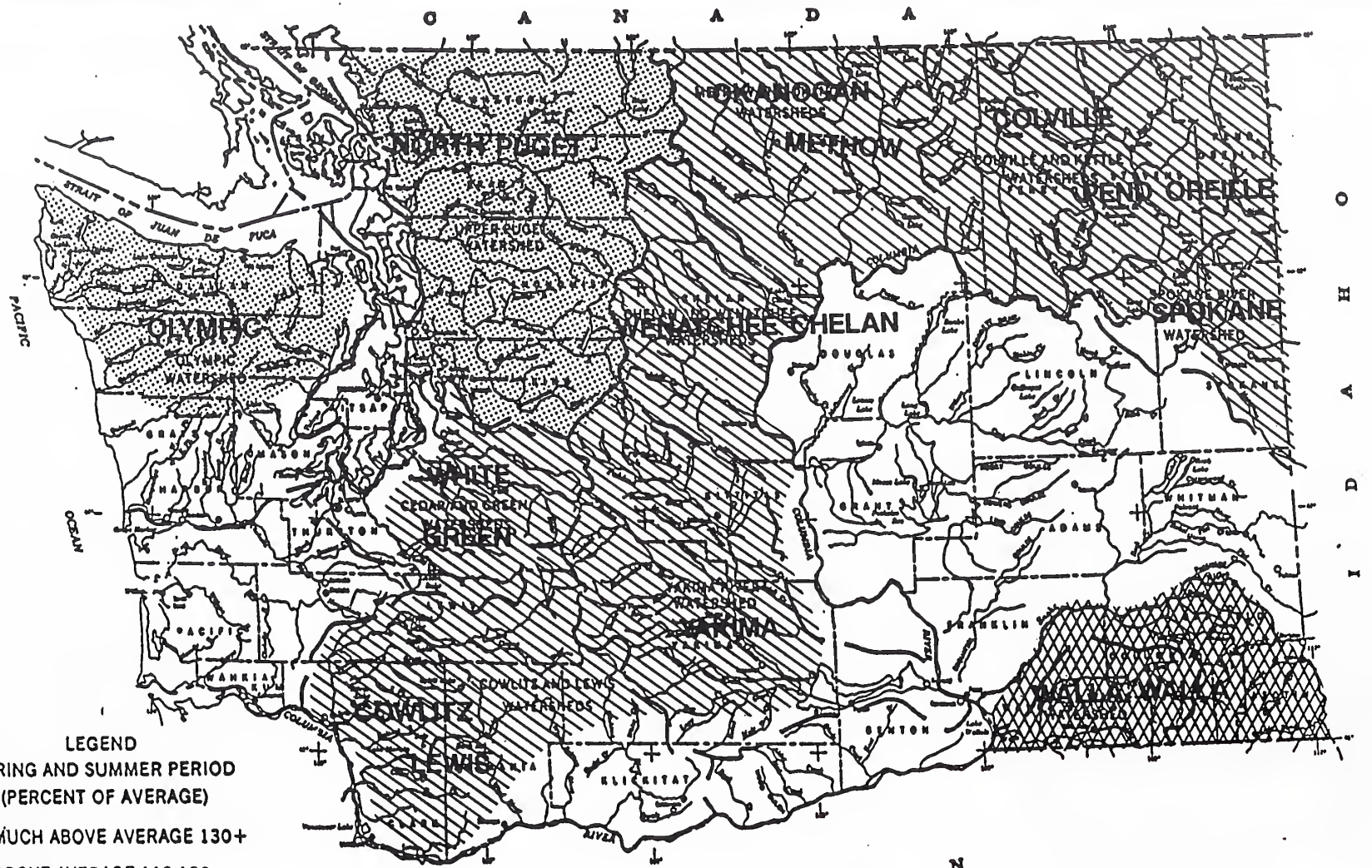
APRIL 1993

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
PEND OREILLE RIVER						
BENTON MEADOW	2370	3/29/93	13	5.6	.0	3.8
BENTON SPRING	4920	3/29/93	34	13.6	8.0	18.6
BOYER MOUNTAIN	5250	4/01/93	48	17.9	16.6	25.7
BUNCHGRASS MEADOWS	5000	4/01/93	52	19.0	21.9	29.5
BUNCHGRASS MDWPILLOW	5000	4/01/93	---	19.8	23.0	26.6
HEART LAKE TRAIL	4800	3/29/93	41	15.6	9.6	21.6
HOODOO BASIN	6050	3/29/93	84	32.2	34.9	51.0
HOODOO CREEK	5900	3/29/93	76	29.1	29.5	46.3
NELSON CAN.	3100	3/30/93	32	12.8	9.9	15.5
KETTLE RIVER						
BARNES CREEK CAN.	5300	3/26/93	50	16.5	19.2	20.6
BIG WHITE MTN CAN.	5510	3/29/93	45	15.7	14.8	19.4
BUTTE CREEK	4070	3/23/93	29	8.8	2.6	9.0
CARMI CAN.	4100	3/29/93	20	6.5	.6	6.4
FARRON CAN.	4000	3/31/93	29	9.7	--	13.9
GOAT CREEK	3600	3/23/93	19	5.1	.0	4.3
GRAYSTOKE LAKE CAN.	5940	4/01/93	39	12.8	--	17.6
MONASHEE PASS CAN.	4500	3/26/93	38	12.4	11.3	14.0
SUMMIT G.S.	4600	3/23/93	32	9.2	.9	8.1
TRAPPING CK LOW CAN.	3050	3/29/93	11	3.2	.0	3.5
COLVILLE RIVER						
STRANGER MOUNTAIN	4230	3/22/93	42	13.8	3.7	12.2
TOGO	3370	3/29/93	28	10.7	--	10.8
OHAK LAKE, TWIN LAKES						
MOUNT TOLMAN	2000	3/22/93	10	4.4	--	--
TWIN LAKES	2700	3/31/93	12	5.1	--	5.2
SPOKANE RIVER						
FOURTH OF JULY SUM	3200	3/25/93	18	6.4	.0	6.8
LOST LAKE (d)	6110	4/01/93	---	42.1E	42.1	57.0
MOSQUITO RDG PILLOW	5200	4/01/93	---	29.0	29.2	37.3
SUNSET	5540	3/31/93	50	20.3	23.1	31.8
SUNSET PILLOW	5540	4/01/93	---	24.2	26.0	37.6
NEWMAN LAKE						
QUARTZ PEAK PILLOW	4700	4/01/93	---	18.2	10.1	21.9
RAGGED RIDGE	3330	3/31/93	16	6.5	.0	3.5
OKANOGAN RIVER						
ABERDEEN LAKE CAN.	4300	3/30/93	19	6.5	--	6.1
BLACKWALL PEAK CAN.	6370	4/01/93	---	21.7	--	33.8
BRENDA MINE CAN.	4800	3/31/93	35	11.1	7.8	13.0
BROOKMERE CAN.	3200	3/30/93	16	4.6	3.5	8.6
ENDERBY CAN.	6200	3/31/93	85	31.1	29.5	38.6
ESPERON CK. UP CAN.	5410	3/26/93	46	15.4	12.5	18.7
ESPERON CK. MID CAN.	4690	3/28/93	38	12.7	10.3	15.5
FREEZEOUT CK. TRAIL	3500	3/30/93	16	8.1	1.4	11.5
GREYBACK RES CAN.	5120	3/29/93	30	9.0	5.7	9.1
HAMILTON HILL CAN.	4890	3/30/93	35	11.1	6.5	15.1
HARTS PASS	6500	3/31/93	75	28.4	34.4	42.6
HARTS PASS PILLOW	6500	4/01/93	---	28.2S	39.9	41.3
ISINTOK LAKE CAN.	5500	3/30/93	26	7.4	2.6	7.6
LIGHTNING LAKE CAN.	4000	3/31/93	26	7.5	7.8	12.7
LOST HORSE MTN CAN.	6300	3/31/93	31	6.7	6.6	9.5
MCCULLOCH CAN.	4200	3/29/93	20	6.5	1.5	6.7
MISSEZULA MTN CAN.	5090	3/30/93	24	6.7	4.1	9.4
MISSION CREEK CAN.	5800	3/31/93	48	16.4	--	20.4
MONASHEE PASS CAN.	4500	3/26/93	38	12.4	11.3	14.0
MT. KOBAU CAN.	5900	3/28/93	37	11.2	9.8	12.9
MUTTON CREEK #1	5700	3/31/93	34	8.3	7.8	13.2
OYAMA LAKE CAN.	4400	3/30/93	23	6.4	2.4	7.0
POSTILL LAKE CAN.	4500	3/31/93	28	7.2	--	9.0
RUSTY CREEK	4000	3/31/93	15	4.8	.0	5.9
SALMON MDWS PILLOW	4500	4/01/93	---	7.9S	5.1	9.4
SILVER STAR MTN CAN.	6000	3/29/93	72	28.7	23.0	29.2
SUMMERLAND RES CAN.	4200	3/29/93	29	8.8	3.8	9.5
SUNDAY SUMMIT CAN.	4300	3/31/93	9	2.5	.0	4.7
TROUT CREEK CAN.	4690	3/29/93	24	6.6	2.0	7.2
VASEUX CREEK CAN.	4600	3/31/93	16	5.2	4.1	6.6
WHITE ROCKS MTN CAN.	6000	3/31/93	48	15.9	--	23.9
METHOW RIVER						
HARTS PASS	6500	3/31/93	75	28.4	34.4	42.6
HARTS PASS PILLOW	6500	4/01/93	---	28.2S	39.9	41.3
MUTTON CREEK #1	5700	3/31/93	34	8.3	7.8	13.2
RUSTY CREEK	4000	3/31/93	15	4.8	.0	5.9
STEVENS PASS SAND SD	3700	3/31/93	50	20.7	14.7	33.7
TROUGH #2 PILLOW	5310	4/01/93	---	8.0S	4.3	9.7
UPPER WHEELER	4400	3/22/93	27	10.7	.0	7.8
UPPER WHEELER PILLOW	4400	4/01/93	---	12.4S	10.1	13.6
SQUILCHUCK CREEK						
STEMILT CREEK						
STEMILT SLIDE	5000	3/22/93	34	12.3	7.2	12.8
UPPER WHEELER	4400	3/22/93	27	10.7	.0	7.8
UPPER WHEELER PILLOW	4400	4/01/93	---	12.4S	10.1	13.6
TROUGH #2 PILLOW	5310	4/01/93	---	8.0S	4.3	9.7
YAKIMA RIVER						
AHTANUM R.S.	3100	3/31/93	20	8.8	.0	5.3
BLEWETT PASS #2	4270	3/31/93	25	8.7	2.8	15.1
BLEWETT PASS#2PILLOW	4270	4/01/93	---	12.5S	6.4	17.8
BUMPING LAKE	3450	3/30/93	20	8.5	.5	14.2
BUMPING LAKE (NEW)	3400	3/30/93	26	11.3	1.0	18.3
BUMPING RIDGE PILLOW	4600	4/01/93	---	34.5E	15.6	21.2
CAYUSE PASS	5300	4/01/93	---	63.8E	35.4	82.4
COLOCKUM PASS	5370	3/30/93	37	13.7	9.1	16.5
CORRAL PASS PILLOW	6000	4/01/93	---	26.0S	28.5	32.6
FISH LAKE	3370	3/30/93	44	19.0	13.1	31.4
FISH LAKE PILLOW	3370	4/01/93	---	19.8S	14.8	31.9
GREEN LAKE	6000	3/31/93	63	30.7	26.4	33.9
GREEN LAKE PILLOW	6000	4/01/93	---	19.9S	16.0	20.7
GROUSE CAMP PILLOW	5380	4/01/93	---	11.8S	13.2	19.8
DOMMERIE FLATS	2200	3/29/93	0	.0	.0	4.3
MORSE LAKE PILLOW	5400	4/01/93	---	38.7S	40.6	47.2
OLALLIE MDWS PILLOW	3960	4/01/93	---	35.3S	26.5	53.5
OLALLIE MEADOWS	3630	4/02/93	29	14.7	.0	44.8
SASSE RIDGE PILLOW	4200	4/01/93	---	27.0S	23.6	32.1
STAMPEDE PASS PILLOW	3860	4/01/93	---	33.1S	26.1	44.4
TUNNEL AVENUE	2450	3/29/93	32	12.7	.0	20.8
WHITE PASS ES PILLOW	4500	4/01/93	---	17.9S	11.7	22.9
AHTANUM CREEK						
AHTANUM R.S.	3100	3/31/93	20	8.8	.0	5.3
GREEN LAKE	6000	3/31/93	63	30.7	26.4	33.9
GREEN LAKE PILLOW	6000	4/01/93	---	19.9S	16.0	20.7
MILL CREEK						
HIGH RIDGE PILLOW	4980	4/01/93	---	25.0S	.0	24.4
TOUCHET #2 PILLOW	5530	4/01/93	---	30.5	16.9	31.9
LEWIS - COWLITZ RIVERS						
CAYUSE PASS	5300	4/01/93	---	63.8E	35.4	82.4
JUNE LAKE PILLOW	3200	4/01/93	---	32.5S	.0	36.3
LONE PINE PILLOW	3800	4/01/93	---	25.3S	5.3	32.1
PARADISE PARK PILLOW	5500	4/01/93	---	55.1S	53.7	62.1
PIGTAIL PEAK PILLOW	5900	4/01/93	---	34.3S	41.8	49.3
POTATO HILL PILLOW	4500	4/01/93	---	19.2S	7.2	25.3
SHEEP CANYON PILLOW	4050	4/01/93	---	31.4S	.0	39.8
SPENCER MDW PILLOW	3400	4/01/93	---	22.6S	.0	29.6
SPIRIT LAKE PILLOW	3100	4/01/93	---	.0S	.0	3.6
SURPRISE LKS PILLOW	4250	4/01/93	---	37.8S	18.6	44.2
WHITE PASS ES PILLOW	4500	4/01/93	---	17.9S	11.7	22.9
WHITE RIVER						
CAYUSE PASS	5300	4/01/93	---	63.8E	35.4	82.4
CORRAL PASS	6000	4/01/93	71	29.1	--	40.1
CORRAL PASS PILLOW	6000	4/01/93	---	26.0S	28.5	32.6
MORSE LAKE PILLOW	5400	4/01/93	---	38.7S	40.6	47.2
GREEN RIVER						
COUGAR MTN. PILLOW	3200	4/01/93	---	10.1S	.0	18.8
STAMPEDE PASS PILLOW	3860	4/01/93	---	33.1S	26.1	44.4
CEDAR RIVER						
CITY CABIN	2390	3/26/93	10	4.7	.0	13.6
MT. GARDNER	3300	3/26/93	16	7.8	.0	14.1
SNOQUALMIE RIVER						
ALPINE MEADOWS	3500	3/26/93	69	33.0	6.1	43.7
KROMONA MINE	2400	4/02/93	34	15.9	--	33.8
OLALLIE MDWS PILLOW	3960	4/01/93	---	35.3S	26.5	53.5
OLALLIE MEADOWS	3630	4/02/93	29	14.7	.0	44.8
OLNEY PASS	3250	4/02/93	0	.0	--	25.6
SKYKOMISH RIVER						
STAMPEDE PASS PILLOW	3860	4/01/93	---	33.1S	26.1	44.4
STEVENS PASS PILLOW	4070	4/01/93	---	30.4S	22.8	42.3
STEVENS PASS SAND SD	3700	3/31/93	50	20.7	14.7	33.7
SKAGIT RIVER						
BEAVER CREEK TRAIL	2200	3/31/93	18	9.9	.0	11.6
BEAVER PASS	3680	3/31/93	40	18.6	13.8	29.7
BROWN TOP AM	6000	3/30/93	100	39.6	44.2	59.6
DEVILS PARK	5900	3/30/93	71	28.2	34.6	42.9
FREEZEOUT CK. TRAIL	3500	3/30/93	16	8.1	1.4	11.5
HARTS PASS	6500	3/31/93	75	28.4	34.4	42.6
HARTS PASS PILLOW	6500	4/01/93	---	28.2S	39.9	41.3
KLESILKWA CAN.	3710	3/26/93	12	4.8	.0	12.4
LIGHTNING LAKE CAN.	4000	3/31/93	26	7.5	7.8	12.7
LYMAN LAKE PILLOW	5900	4/01/93	---	34.3S	57.3	56.9
MEADOWS CABIN	1900	4/01/93	2	.9	.0	4.8
NEW HOZOMEEN LAKE	2800	3/30/93	16	7.0	.0	10.4
RAINY PASS	4780	3/29/93	63	25.8	38.6	39.3
RAINY PASS PILLOW	4780	4/01/93	---	26.0S	40.4	38.0
THUNDER BASIN	4200	3/29/93	40	15.0	16.2	21.7
BAKER RIVER						
DOCK BUTTE AM	3800	3/25/93	92	40.8	3.5	65.4
EASY PASS AM	5200	3/25/93	106	46.1	64.0	82.9
JASPER PASS AM	5400	3/25/93	134	55.1	65.0	86.0
MARTEN LAKE AM	3600	3/25/93	96	45.9	4.7	73.4
MT. BLUM AM	5800	3/25/93	115	46.0	49.0	63.1
ROCKY CREEK AM	2100	3/25/93	52	26.7	.0	27.8
SCHREIBERS MDW AM	3400	3/25/93	64	30.3	32.0	58.8
SF THUNDER CK AM	2200	3/25/93	0	.0	.0	4.9
WATSON LAKES AM	4500	3/25/93	88	40.5	3.8	64.9
OLYMPIC BASIN						
HURRICANE	4500	3/28/93	22	8.2	.6	22.1
COX VALLEY	4500	3/29/93	49	20.7	23.9	39.5
DEER PARK	5200	3/30/93	21	8.7	6.8	20.9
MOUNT CRAG PILLOW	4050	4/01/93	---	20.0S	12.6	--

(d) Denotes discontinued site.

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE



LEGEND

SPRING AND SUMMER PERIOD

(PERCENT OF AVERAGE)

- MUCH ABOVE AVERAGE 130+
- ABOVE AVERAGE 110-130
- NEAR AVERAGE 90-110
- BELOW AVERAGE 70-90
- MUCH BELOW AVERAGE 70+ LESS
- NOT FORECAST
- WATERSHED BOUNDARY

APRIL 1, 1993
MOUNTAIN SNOWPACK
WASHINGTON

0 25 50 75 100 MI

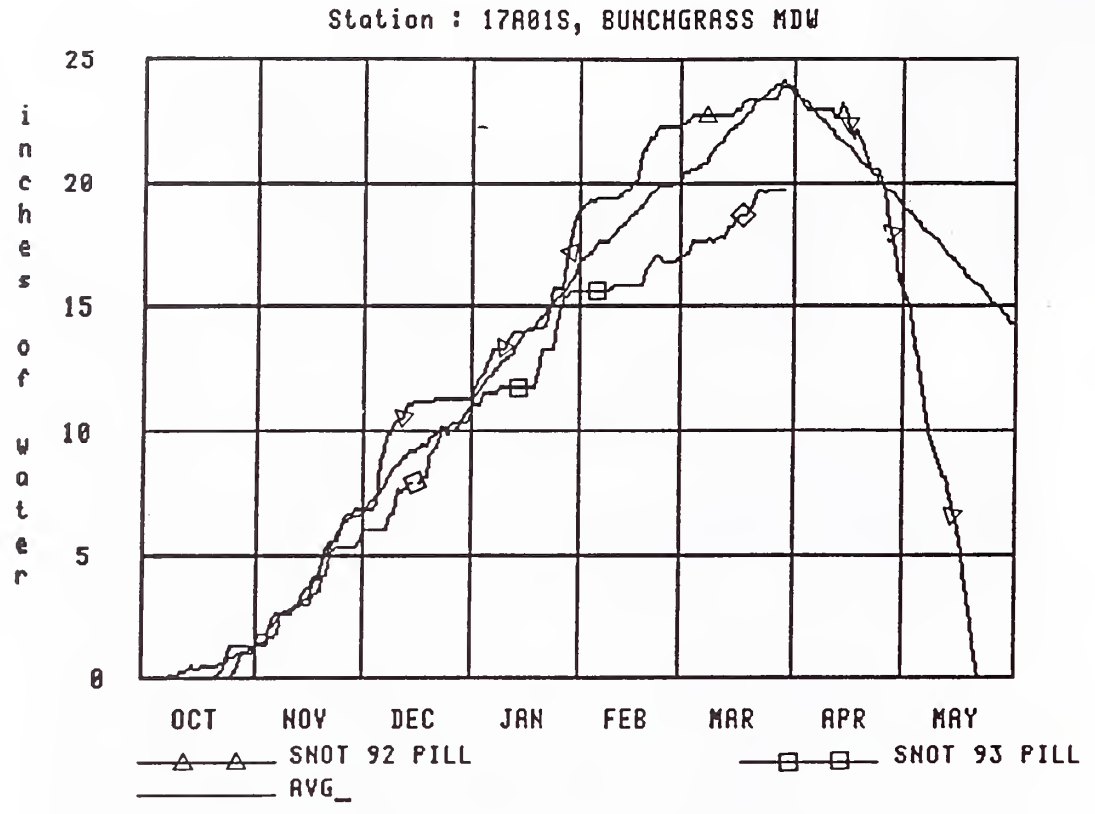
0 50 100 150 KM

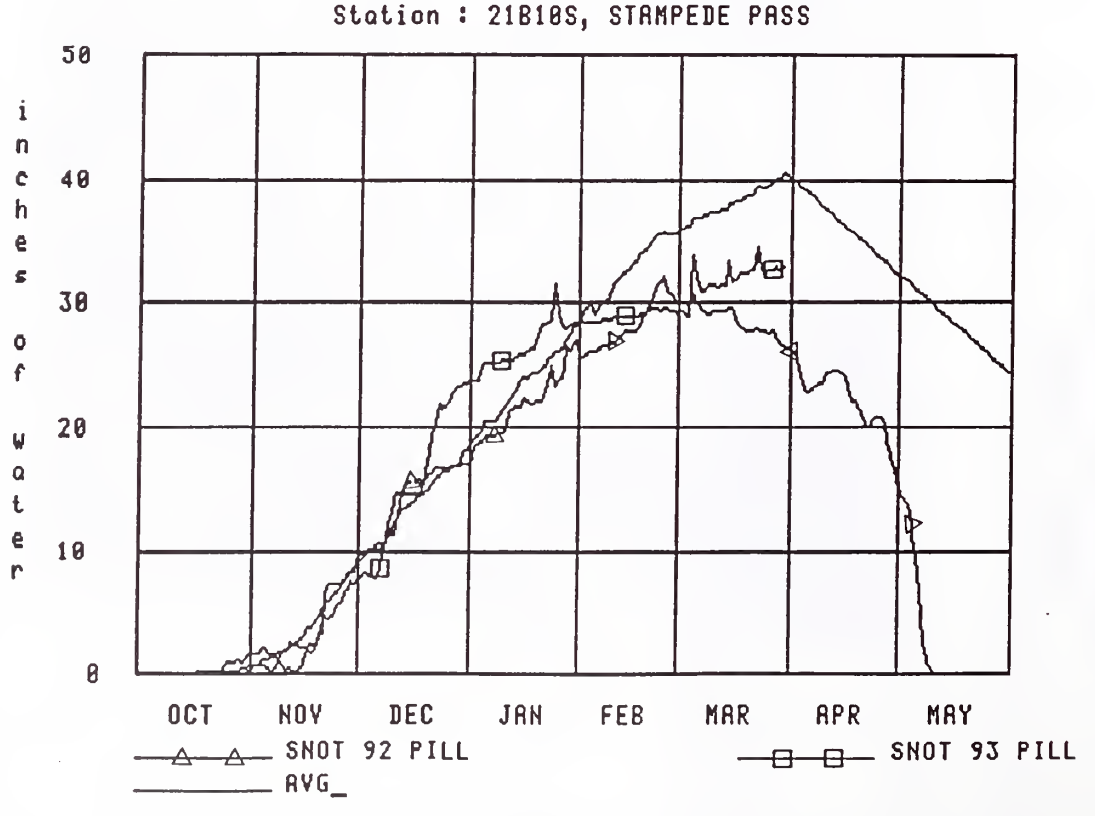
SOURCE: Data compiled by SCS Field Personnel

JANUARY 1986 4-R-39641

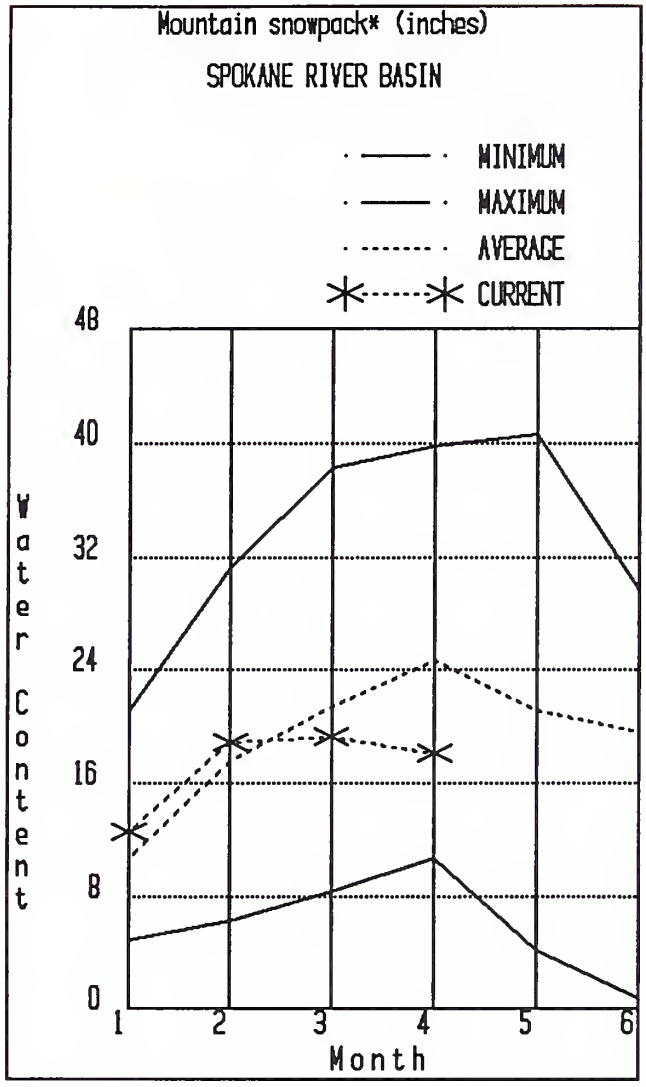
BASE 4-R-39260

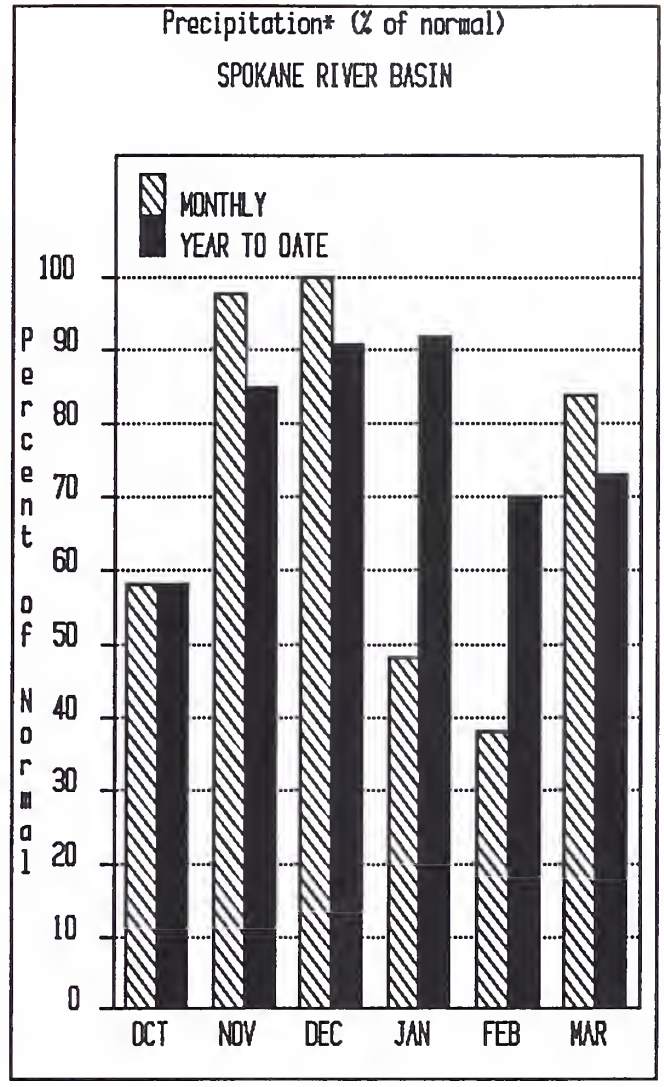
Accumulated Snowpack At Selected SNOTEL Stations
Washington State





Spokane River Basin





*Based on selected stations

Streamflow on the Spokane River was 105% of average for March. Precipitation for March was 84% of average. The April 1 forecasts for summer runoff within the Spokane River Basin are 68%, down from 71% of normal. The forecast is based on a snowpack that is 74% of average and a water year-to-date precipitation value of 73% of normal. Temperatures in the basin were one degree below normal during March. April 1 storage in Coeur d'Alene Lake increased to 225,500 acre feet, 133% of normal, and 95% of capacity.

For more information contact your local Soil Conservation Service office.

SPOKANE RIVER BASIN

Streamflow Forecasts - April 1, 1993

Forecast Point	Forecast Period	<<------ Drier ------ Future Conditions ------ Wetter ------>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SPOKANE nr Post Falls (1,2)	APR-SEP	950	1550	1820	67	2090	2690	2720
	APR-JUL	920	1500	1760	67	2020	2600	2627
SPOKANE at Long Lake (2)	APR-JUL	1150	1660	2000	68	2340	2850	2937

SPOKANE RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SPOKANE RIVER BASIN
Watershed Snowpack Analysis - April 1, 1993

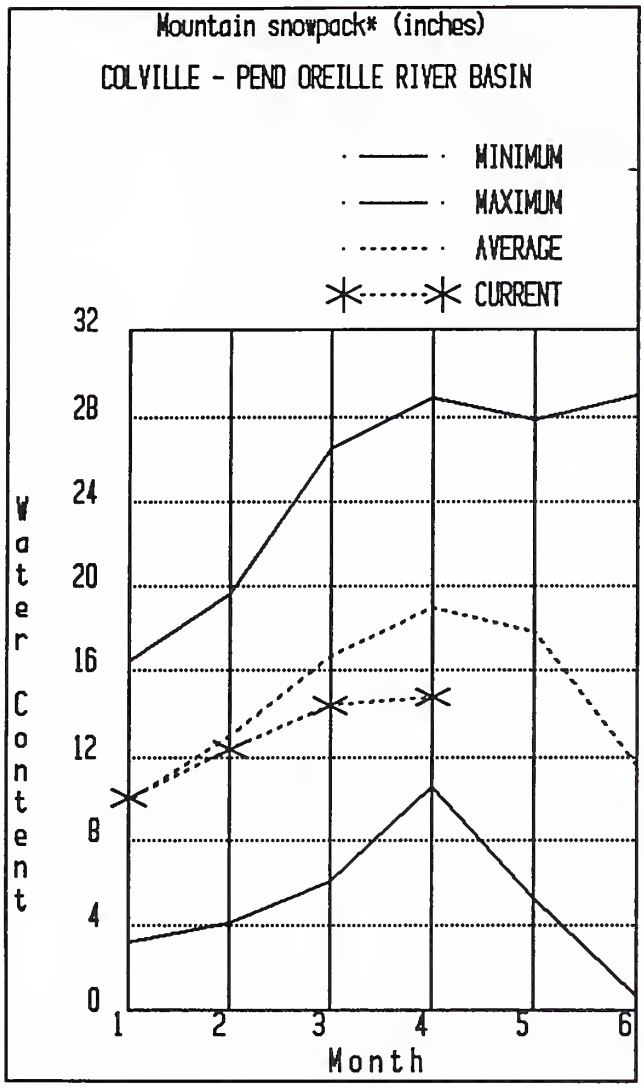
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Spokane River	15	129	74

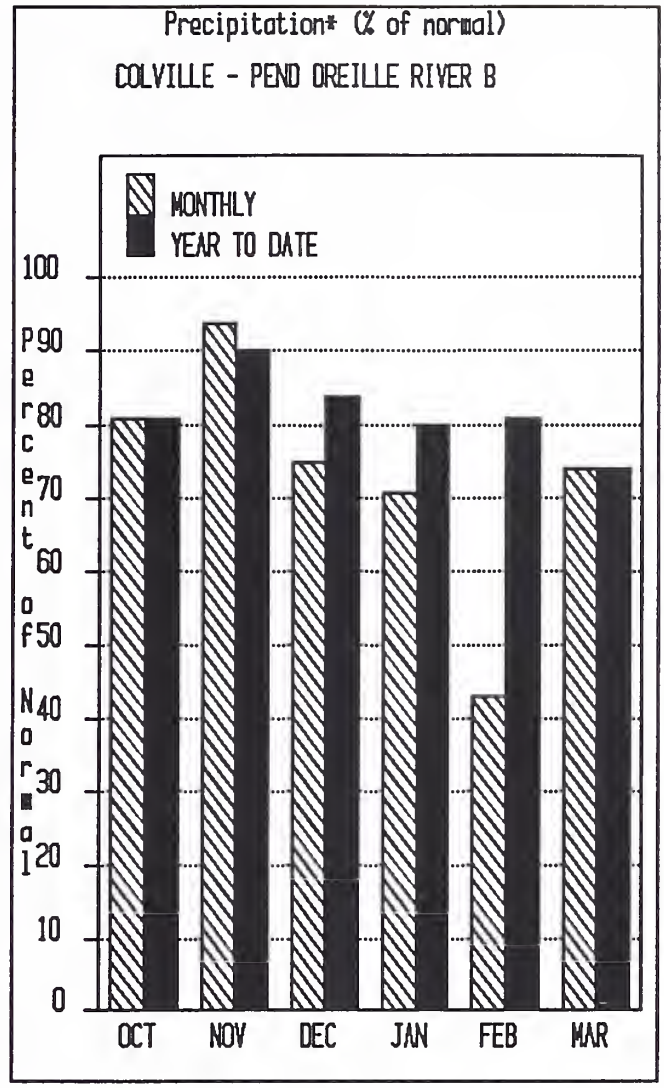
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Colville - Pend Oreille River Basins





*Based on selected stations

The forecast for the Kettle River streamflow is 81% of normal, the Pend Oreille, 63%, and the Colville River, 78% of normal for the summer runoff period. March streamflow was 69% of normal on the Pend Oreille River, 78% on the Columbia at the International Boundary, and 59% on the Kettle River. April 1 snow cover is 70% of normal, down from 77% of average on the Pend Oreille, 107% of average on the Colville River, and 85% on the Kettle River. Snowpack at Bunchgrass Meadow SNOTEL site was 19.8 inches of water, the average April 1 reading is 26.6. Precipitation during March was 74% of average, bringing the water year-to-date to 74% of normal. Temperatures were normal for March.

For more information contact your local Soil Conservation Service office.

COLVILLE - PEND OREILLE RIVER BASINS

Streamflow Forecasts - April 1, 1993

Forecast Point	Forecast Period	<<------ Drier ------ Future Conditions ------- Wetter ------>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
PEND OREILLE bl Box Canyon (1,2)	APR-SEP	6470	8290	9120	63	9950	11800	14590
	APR-JUL	5930	7600	8360	62	9120	10800	13380
	APR-JUN	5080	6520	7170	62	7820	9260	11570
CHAMOKANE CK nr Long Lake	MAY-AUG	1.8	4.8	6.8	72	8.8	11.8	9.4
COLVILLE at Kettle Falls	APR-SEP	54	83	102	78	121	150	131
	APR-JUL	54	78	94	78	110	134	120
	APR-JUN	51	72	87	78	102	123	111
KETTLE nr Laurier	APR-SEP	980	1290	1500	81	1710	2000	1853
	APR-JUL	930	1230	1430	81	1630	1930	1760
	APR-JUN	830	1100	1280	81	1460	1730	1585
COLUMBIA at Birchbank (1,2)	APR-SEP	28600	32300	33900	77	35500	39200	43810
	APR-JUL	23000	25900	27200	77	28500	31400	35140
	APR-JUN	16700	18800	19760	77	20700	22800	25670
COLUMBIA at Grand Coulee Dm (1,2)	APR-SEP	37200	43000	45700	71	48400	54200	64780
	APR-JUL	31400	36400	38600	71	40800	45800	54500
	APR-JUN	24800	28600	30350	71	32100	35900	42730

COLVILLE - PEND OREILLE RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
ROOSEVELT		NO REPORT		
BANKS		NO REPORT		

COLVILLE - PEND OREILLE RIVER BASINS
Watershed Snowpack Analysis - April 1, 1993

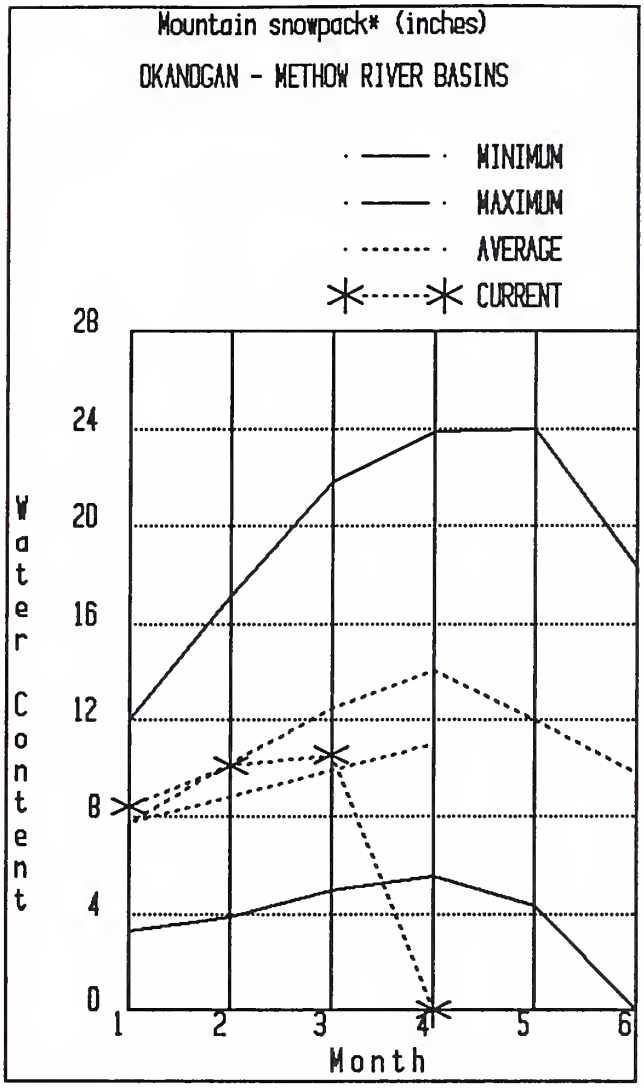
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Colville River	1	373	113
Pend Oreille River	8	111	70
Kettle River	9	169	90

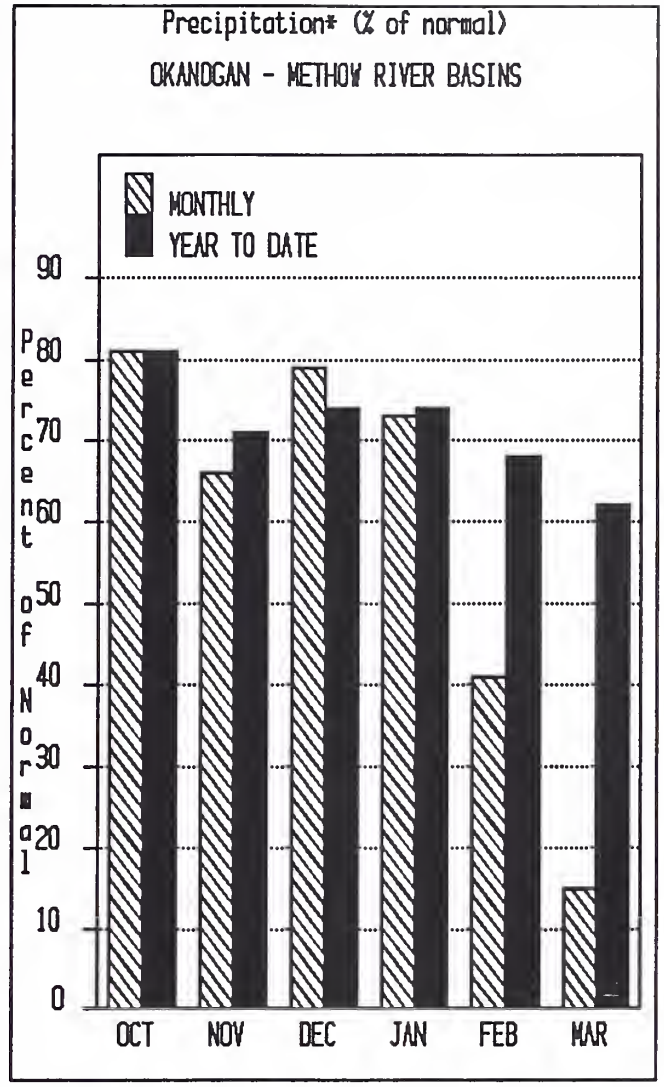
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Okanogan - Methow River Basins





*Based on selected stations

Summer runoff forecast for the Okanogan River is 63% of normal; the Similkameen River, 54%, and the Methow River, 62% of normal. April 1 snow cover on the Okanogan was 78% of normal, down from 89% of average, 70% on the Methow, and 68% on the Similkameen River. March precipitation in the Okanogan-Methow was 15% of normal, with water year-to-date at 62% of average. March streamflow on the Methow River was 46% of normal, 52% on the Okanogan River, and 67% on the Similkameen. Snow water content at the Harts Pass SNOTEL, elevation 6500 feet, was 28.2 inches; normal for this site is 41.3 inches. Temperatures were two degrees above normal for the month. Storage in the Conconully Reservoir is 13,400 acre feet, which is 57% of capacity and 89% of April 1 average.

For more information contact your local Soil Conservation Service office.

OKANOGAN - METHOW RIVER BASINS

Streamflow Forecasts - April 1, 1993

Forecast Point	Forecast Period	<<------ Drier ------ Future Conditions ------ Wetter ------>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SIMILKAMEEN nr Nighthawk (1)	APR-SEP	420	665	760	54	855	1090	1399
	APR-JUL	420	610	700	54	790	980	1304
	APR-JUN	330	515	600	54	685	870	1113
OKANOGAN RIVER nr Tonasket (1)	APR-SEP	440	845	1030	63	1210	1620	1624
	APR-JUL	410	765	925	63	1090	1440	1467
	APR-JUN	385	655	780	63	905	1180	1234
METHOW RIVER nr Pateros (1)	APR-SEP	330	505	580	62	655	825	942
	APR-JUL	310	470	540	62	610	770	873
	APR-JUN	255	395	460	62	525	665	746

OKANOGAN - METHOW RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CONCONULLY LAKE (SALMON)	10.5	7.4	8.2	8.0
CONCONULLY RESERVOIR	13.0	6.0	8.7	7.0

OKANOGAN - METHOW RIVER BASINS
Watershed Snowpack Analysis - April 1, 1993

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Okanogan River	25	129	80
Methow River	4	93	70

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

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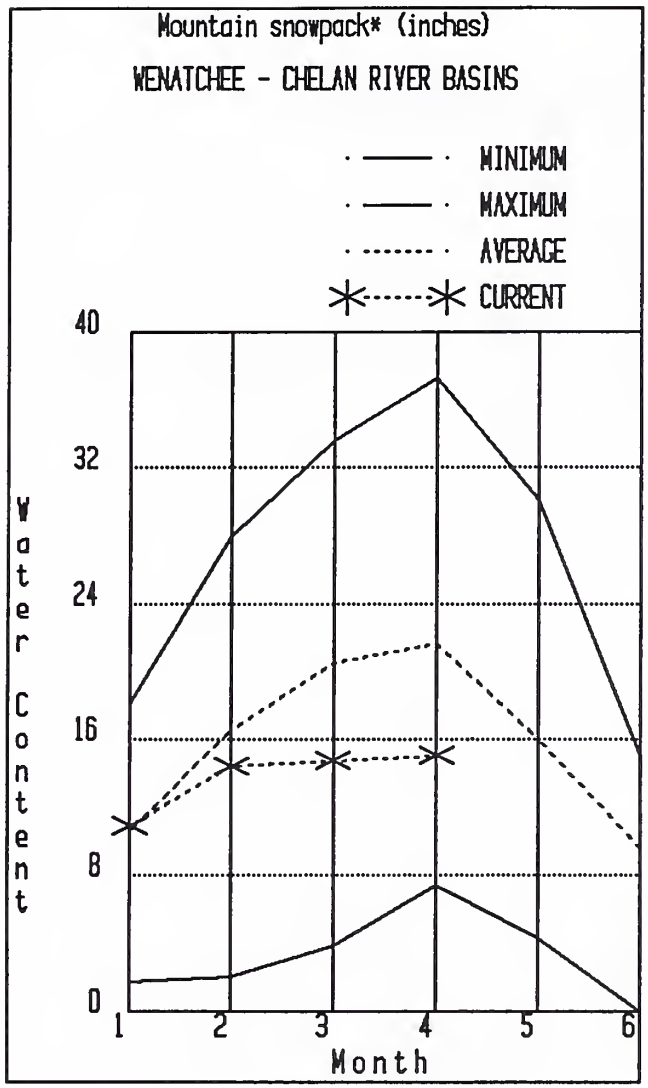
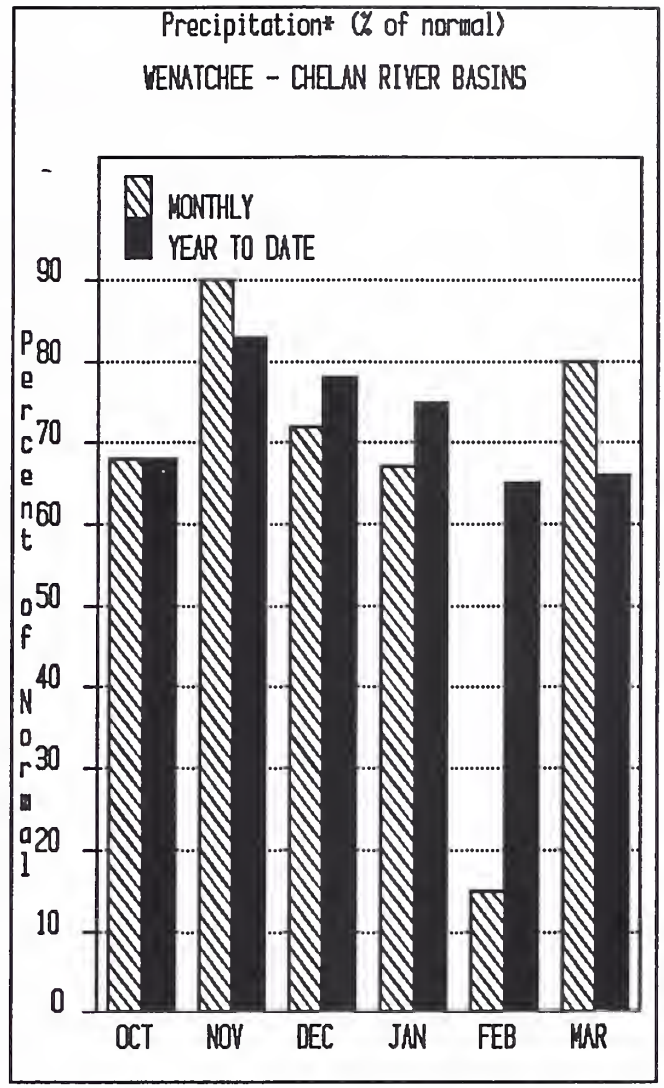
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Wenatchee - Chelan River Basins





*Based on selected stations

The summer forecast for the Chelan River is for 70%, for the Wenatchee River it is 68%, and 80% on the Squilchuck-Stemilt. April 1 snowpack in the Wenatchee Basin is 68% of average down from 73% and the Chelan Basin is 64%. Snowpack along Colockum Ridge continues to be near normal for the first time in five years, with Stemilt Creek at 94%. Snowpack on the Entiat River is at 92% of average. Precipitation during March was 80% of normal in the basin and 66% for the year to date. Runoff for the Entiat River is forecast to be 72% of normal for the summer. Reservoir storage in Lake Chelan is 143,600 acre feet or 68% of April 1 average and 21% of capacity. Lyman Lake SNOTEL had the most snow water with 34.3 inches of water; this site would normally have 56.9 inches. Streamflow for March on the Chelan River was 58% of average and on the Wenatchee River it was 65% of normal.

For more information contact your local Soil Conservation Service office.

WENATCHEE - CHELAN RIVER BASINS

Streamflow Forecasts - April 1, 1993

Forecast Point	Forecast Period	<<------ Drier ------ Future Conditions ------ Wetter ------>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (Most Probable) (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
CHELAN RIVER at Chelan (1)	APR-SEP	625	765	815	70	865	1010	1160
	APR-JUL	580	680	725	71	770	870	1024
	APR-JUN	385	515	575	71	635	765	812
STEHEKIN R. at Stehekin	APR-SEP	490	545	580	70	615	670	827
	APR-JUL	410	460	490	70	520	570	701
	APR-JUN	320	355	377	70	400	435	538
ENTIAT RIVER nr Ardenvoir	APR-SEP	121	146	163	72	180	205	227
	APR-JUL	109	132	148	72	164	187	206
	APR-JUN	92	110	122	72	134	153	169
WENATCHEE R. at Peshastin	APR-SEP	595	900	1110	68	1320	1630	1636
	APR-JUL	545	820	1010	68	1200	1480	1485
	APR-JUN	445	670	820	68	970	1190	1204
STEMILT nr Wenatchee (miners in)	MAY-SEP	66	92	110	80	128	154	138
ICICLE CREEK nr Leavenworth	APR-SEP	168	240	285	77	335	405	370
	APR-JUL	154	220	262	77	305	370	340
	APR-JUN	122	173	208	77	245	295	270
COLUMBIA R. bl Rock Island Dam (2)	APR-SEP	40500	46000	49800	71	53600	59000	70410
	APR-JUL	34400	39100	42300	71	45500	50200	59690
	APR-JUN	27200	30900	33400	71	35900	39600	46980

WENATCHEE - CHELAN RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
CHELAN LAKE	676.1	143.6	158.0	212.1

WENATCHEE - CHELAN RIVER BASINS
Watershed Snowpack Analysis - April 1, 1993

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
Chelan Lake Basin	3	63	64
Entiat River	2	156	92
Wenatchee River	11	118	68
Squilchuck Creek	0	0	0
Stemilt Creek	2	143	94
Colockum Creek	1	186	82

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

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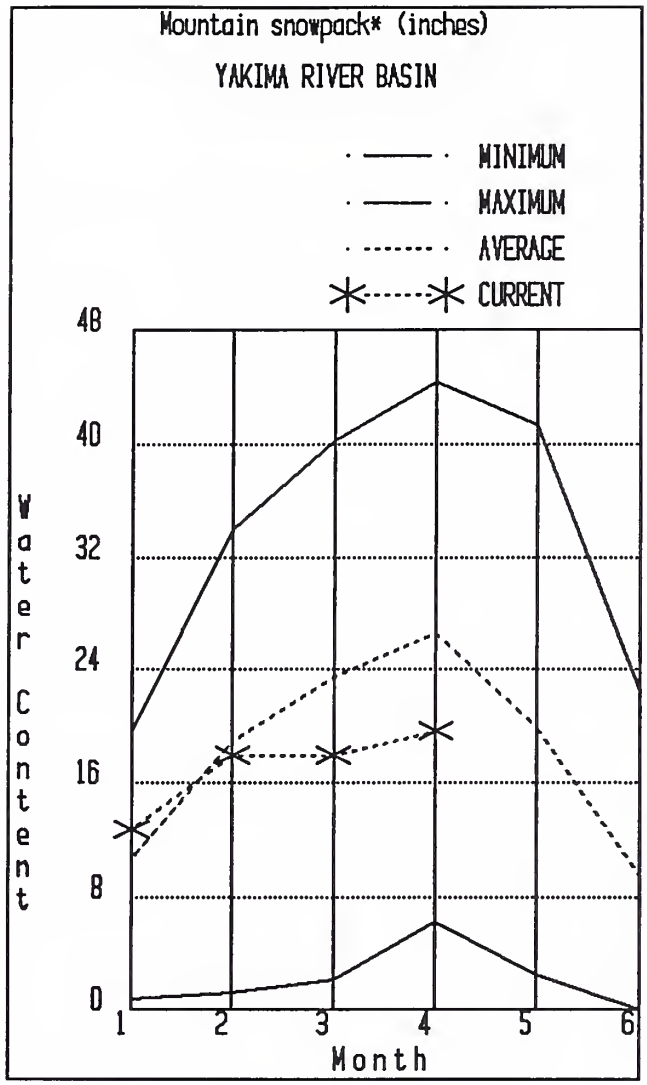
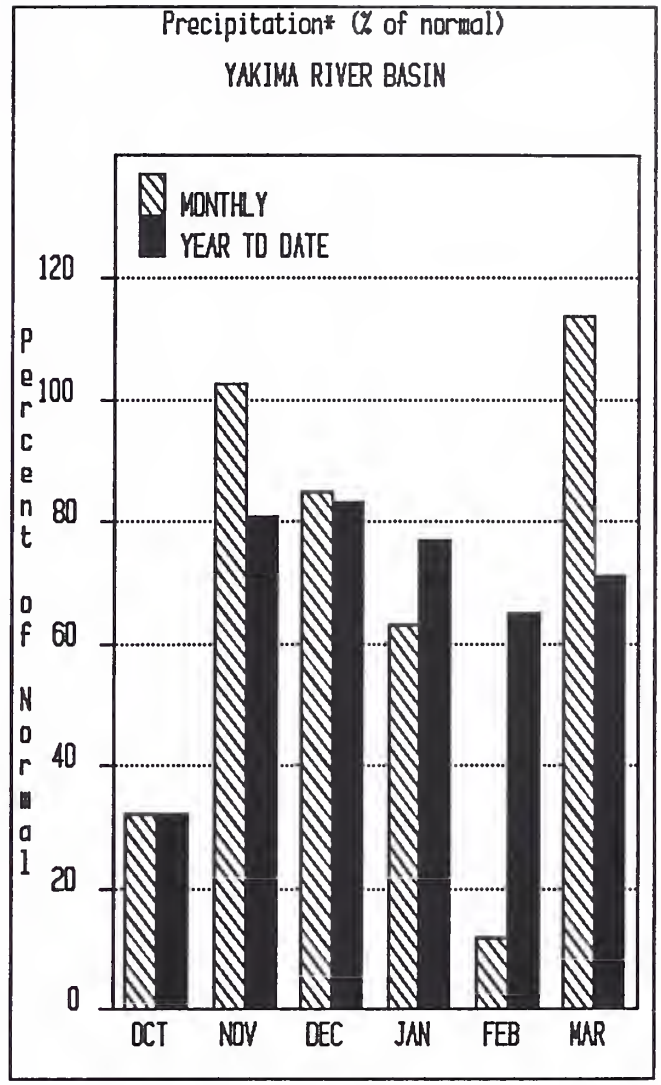
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Yakima River Basin





*Based on selected stations

April 1 summer streamflow forecasts for the Yakima Basin vary throughout the basin as follows: The Yakima River at Cle Elum, 64%; Naches River, 68%; the Yakima River at Parker, 61%, Ahtanum Creek, 70%, and the Tieton River 69%. March streamflows were low, with the Yakima River at Parker 78% of normal, 104% for the Yakima near Cle Elum, and 69% for the Naches River. April 1 snowpack is 74% of average, down from 76% last month. March precipitation was 114% of normal and 71% for the water year to date. April 1 reservoir storage for the five major reservoirs at 358,400 acre feet, was 48% of average. Temperatures were two degrees below average for March. The snowpack is based upon 19 snow courses and SNOTEL readings. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U. S. Bureau of Reclamation's forecast for the total water supply available which includes irrigation return flow.

For more information contact your local Soil Conservation Service office.

YAKIMA RIVER BASIN

Streamflow Forecasts - April 1, 1993

Forecast Point	Forecast Period	<<------ Drier ------ Future Conditions ------ Wetter ------>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
LAKE KEECHELUS INFLOW	APR-JUL	65	73	78	63	83	91	124
	APR-SEP	68	78	85	63	92	102	135
	APR-JUN	51	62	69	63	76	87	109
KACHESS LAKE INFLOW	APR-JUL	59	66	71	64	76	83	111
	APR-SEP	66	70	76	64	82	91	118
	APR-JUN	50	58	63	64	68	76	99
CLE ELUM LAKE INFLOW	APR-JUL	230	250	260	64	270	290	409
	APR-SEP	235	265	280	63	295	325	448
	APR-JUN	182	205	220	64	235	260	345
YAKIMA RIVER at Cle Elum	APR-JUN	380	430	460	64	490	540	721
	APR-JUL	460	500	530	64	560	600	832
	APR-SEP	495	555	585	64	615	675	915
BUMPING LAKE INFLOW	APR-SEP	75	91	96	71	101	116	136
	APR-JUL	76	83	88	71	93	101	124
	APR-JUN	59	68	74	71	80	90	104
AMERICAN RIVER nr Nile	APR-SEP	73	80	84	71	88	95	118
	APR-JUL	66	73	77	71	81	88	109
	APR-JUN	51	59	65	71	71	79	92
RIMROCK LAKE INFLOW	APR-SEP	131	157	165	69	173	198	238
	APR-JUL	126	134	140	70	146	154	200
	APR-JUN	95	107	115	71	123	135	162
NACHES RIVER nr Naches (2)	APR-SEP	440	535	565	68	595	690	832
	APR-JUL	450	490	515	68	540	580	755
	APR-JUN	375	420	450	69	480	530	651
AHTANUM CREEK nr Tampico (2)	APR-SEP	15.0	25	32	70	39	49	46
	APR-JUL	14.0	23	29	70	36	45	42
	APR-JUN	12.0	20	26	71	31	39	36
YAKIMA near Parker	APR-SEP	895	1140	1210	61	1280	1620	1994
	APR-JUL	810	1030	1100	61	1160	1460	1805
	APR-JUN	805	905	975	61	1040	1140	1597

YAKIMA RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
KEECHELUS	157.8	68.4	131.6	110.0
KACHESS	239.0	82.5	186.4	187.0
CLE ELUM	436.9	118.1	354.4	290.0
BUMPING LAKE	33.7	11.4	18.8	11.0
RIMROCK	198.0	78.0	125.2	142.0

YAKIMA RIVER BASIN
Watershed Snowpack Analysis - April 1, 1993

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Yakima River	19	152	74
Ahtanum Creek	2	179	110

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

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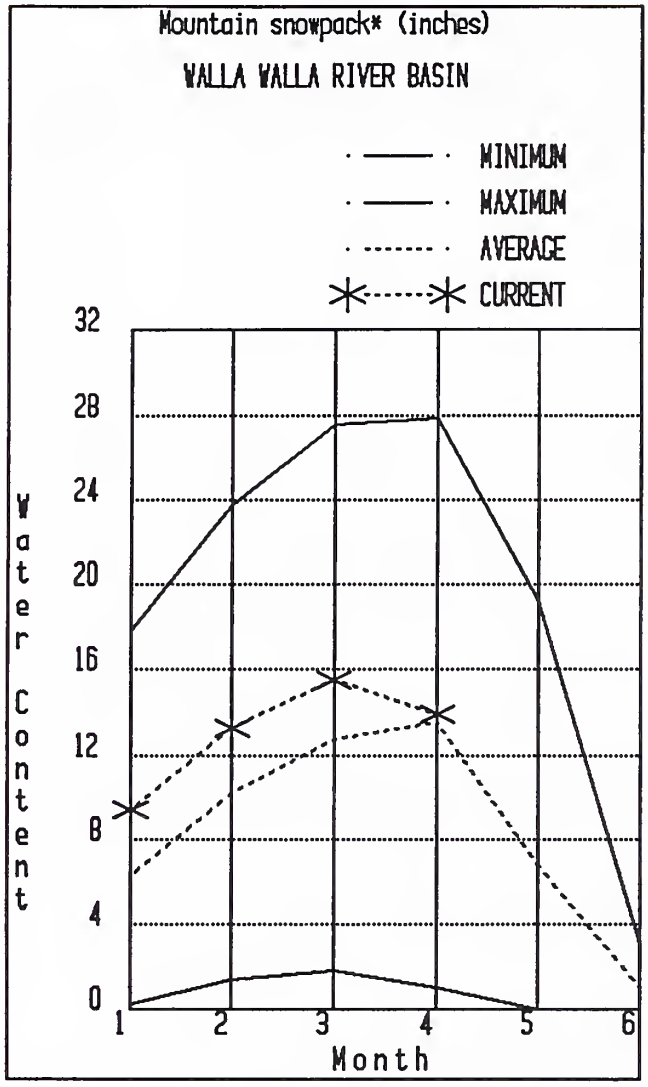
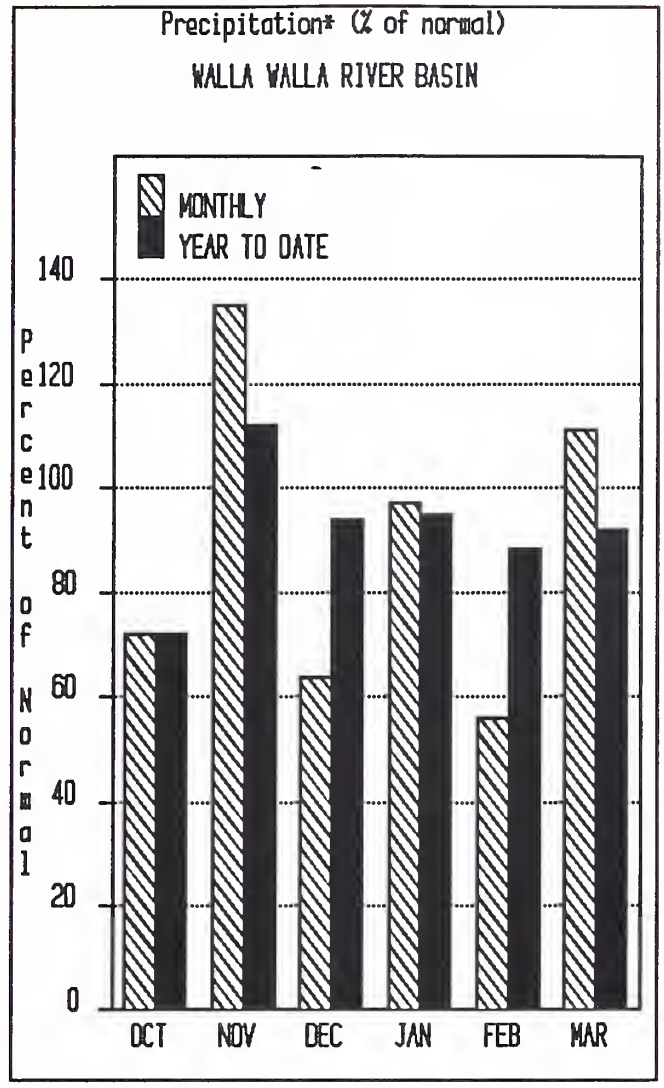
Walla Walla River Basin





*Based on selected stations

The forecast is for 95% of average streamflow in the Walla Walla River for the coming summer, the Grande Ronde, 91%; Snake River, 73%, and 89% for Mill Creek. March streamflow was 95% of normal on the Walla Walla River, 105% for the Snake River, and 130% on the Grande Ronde River near Troy. April 1 snowpack is at 103% of normal, down from 122% last month. The Touchet SNOTEL site has 30.5 inches of water, the normal April 1 reading for this site is 31.9 inches. March precipitation was 111% of average, bringing the year-to-date precipitation to 92% of normal, the highest in the state. Temperatures were three degrees below average for March.

For more information contact your local Soil Conservation Service office.

WALLA WALLA RIVER BASIN

Streamflow Forecasts - April 1, 1993

Forecast Point	Forecast Period	<<------- Drier ------ Future Conditions ------- Wetter ------>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
GRANDE RONDE at Troy (1)	APR-JUL	770	1000	1110	91	1220	1450	1214
	APR-SEP	825	1080	1195	91	1310	1560	1312
SNAKE bl Lower Granite Dam (1,2)	APR-JUL	11000	14400	15900	73	17400	20800	21650
	APR-SEP	12400	16200	17900	73	19600	23400	24360
MILL CREEK at Walla Walla	APR-SEP	9.2	12.8	15.2	89	17.6	21	17.1
	APR-JUL	9.1	12.7	15.1	89	17.5	21	16.9
	APR-JUN	9.1	12.6	15.0	90	17.4	21	16.7
SF WALLA WALLA nr Milton Freewater	APR-JUL	42	47	50	94	53	58	53
COLUMBIA R. at The Dalles (2)	APR-SEP	55400	69200	69200	70	69200	83100	98910
	APR-JUL	48000	54700	59200	70	63700	70400	84710
	APR-JUN	39100	44500	48200	70	51900	57300	68890

WALLA WALLA RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

WALLA WALLA RIVER BASIN
Watershed Snowpack Analysis - April 1, 1993

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mill Creek	2	328	99

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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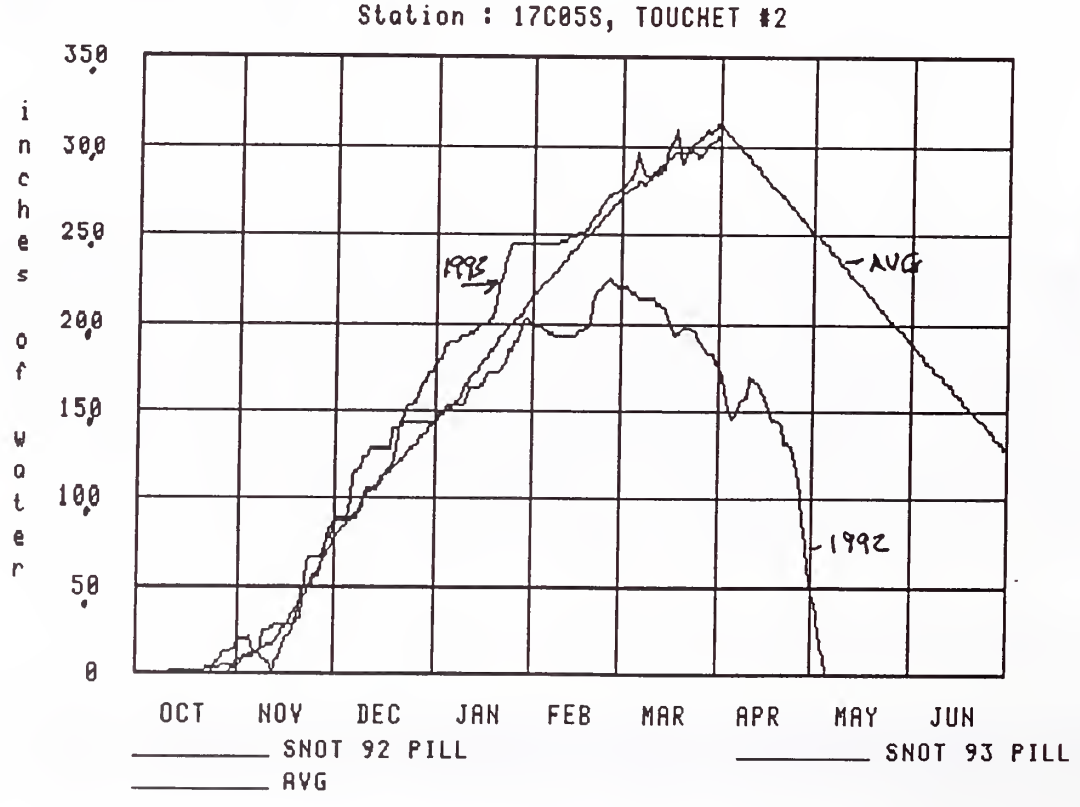
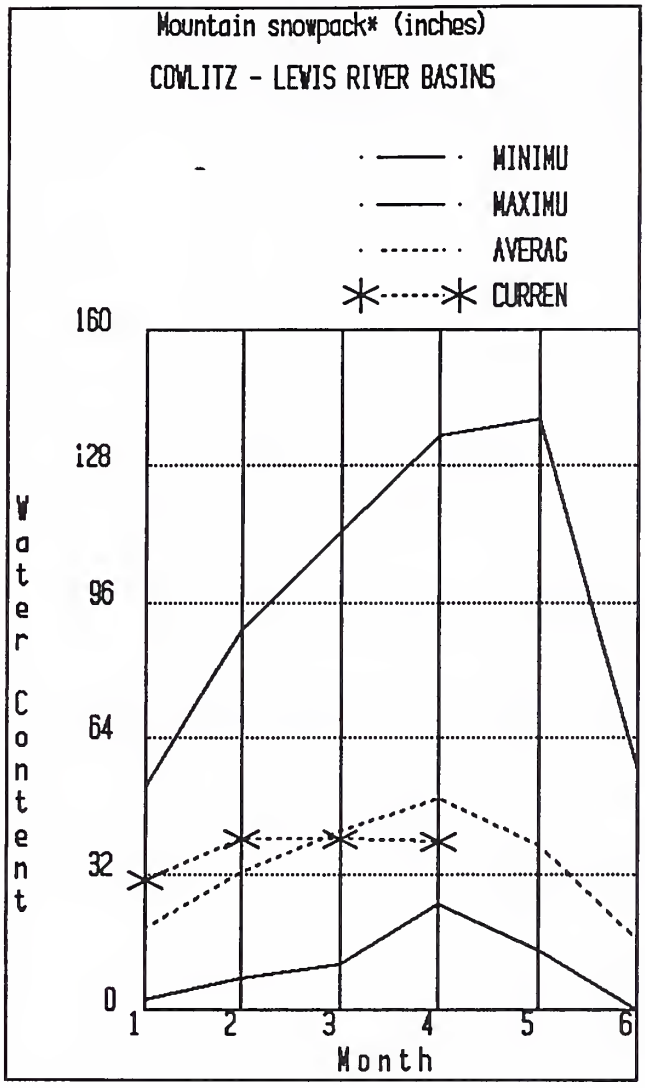
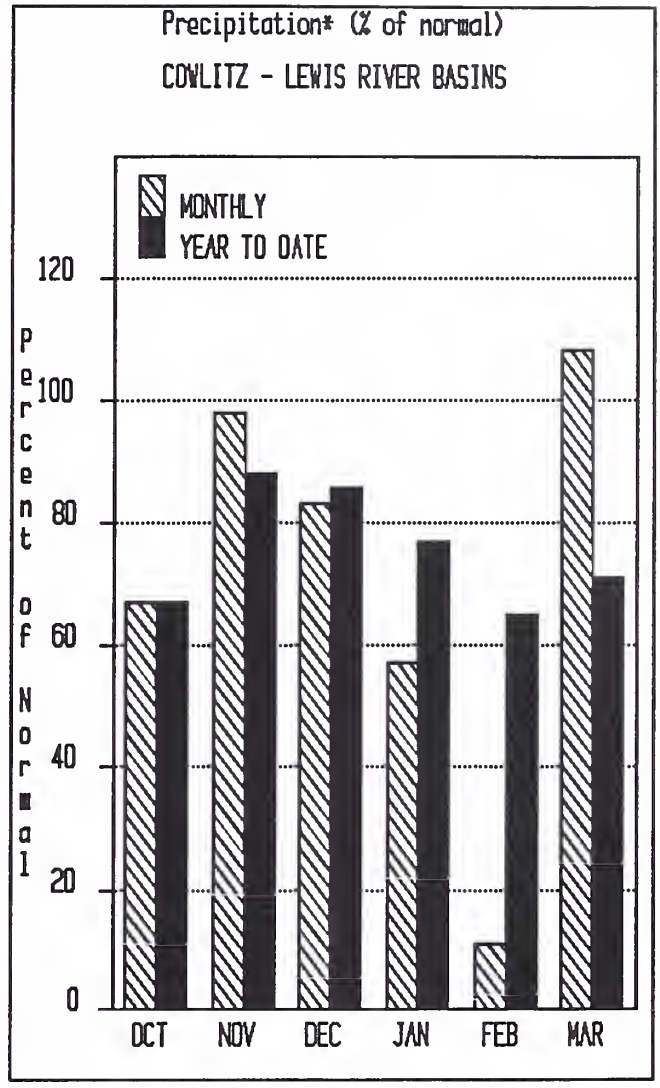
(2) - The value is natural flow - actual flow may be affected by upstream water management.



Cowlitz - Lewis River Basins





*Based on selected stations

March precipitation was 108% of normal, bringing the water year-to-date precipitation to 71% of average. April 1 snow cover for the Cowlitz River is 78%, and for the Lewis River it is 83%. The forecast for summer runoff in the Lewis River is 75% of normal and the Cowlitz River, 68%. March streamflow on the Cowlitz River was 105% of average, and 129% on the Lewis River. The Paradise Park SNOTEL contained the maximum water content for the basin with 55.1 inches of water. Normal April 1 water content is 62.1 inches. Temperatures were one degrees above normal for March.

For more information contact your local Soil Conservation Service office.

COWLITZ - LEWIS RIVER BASINS

Streamflow Forecasts - April 1, 1993

Forecast Point	Forecast Period	<<------ Drier ------ Future Conditions ------ Wetter ------>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
LEWIS RIVER at Ariel (2)	APR-SEP	540	770	905	75	1040	1280	1204
	APR-JUL	500	670	790	75	910	1080	1051
	APR-JUN	445	595	700	75	805	955	933
COWLITZ R. bl Mayfield Dam (2)	APR-SEP	475	1030	1350	69	1670	2230	1970
	APR-JUL	500	910	1190	69	1470	1880	1731
	APR-JUN	430	780	1020	69	1260	1610	1477
COWLITZ R. at Castle Rock (2)	APR-SEP	855	1560	1950	73	2340	3010	2667
	APR-JUL	865	1360	1700	73	2040	2540	2325
	APR-JUN	750	1180	1470	74	1760	2190	1995

COWLITZ - LEWIS RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

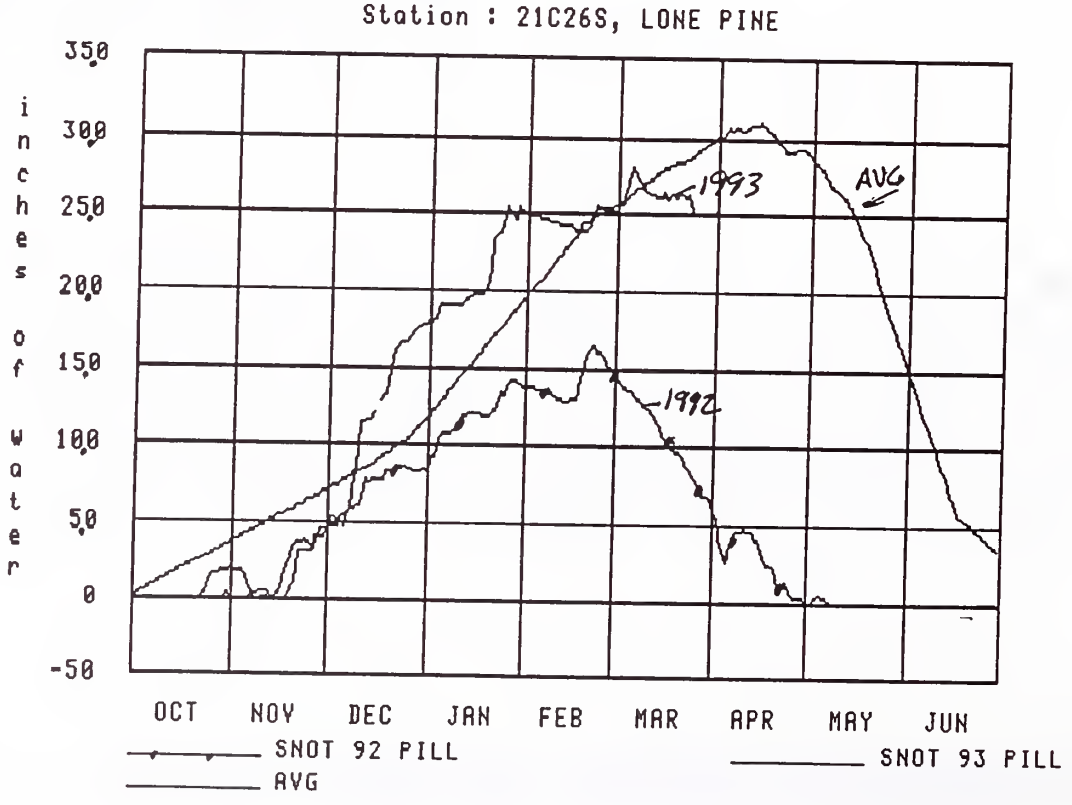
COWLITZ - LEWIS RIVER BASINS
Watershed Snowpack Analysis - April 1, 1993

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Cowlitz River	7	148	78
Lewis River	4	495	83

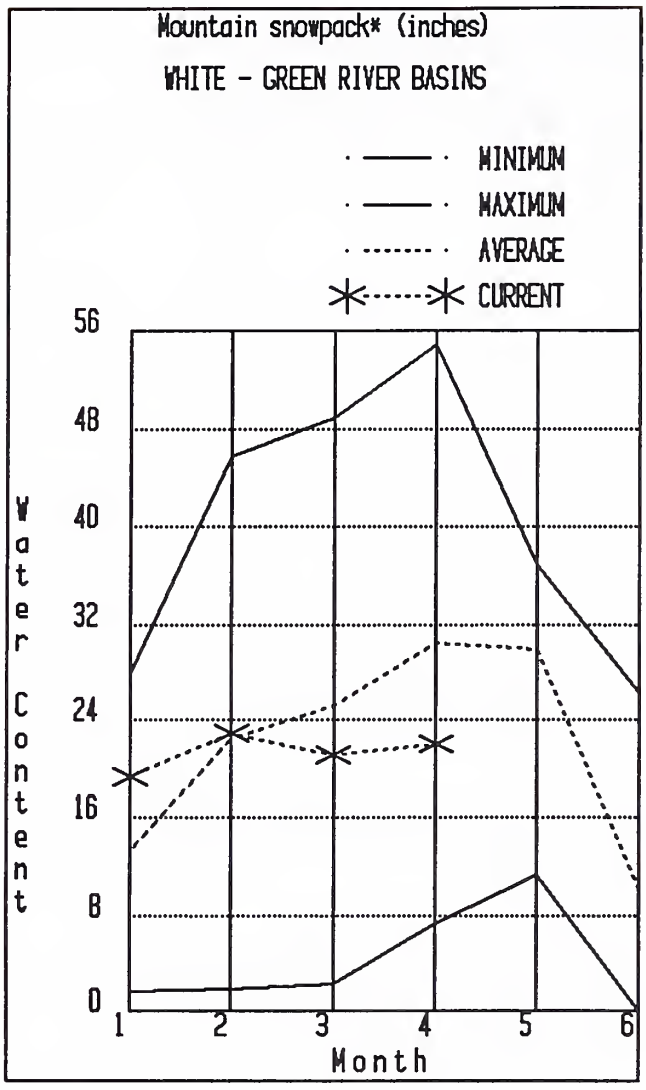
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

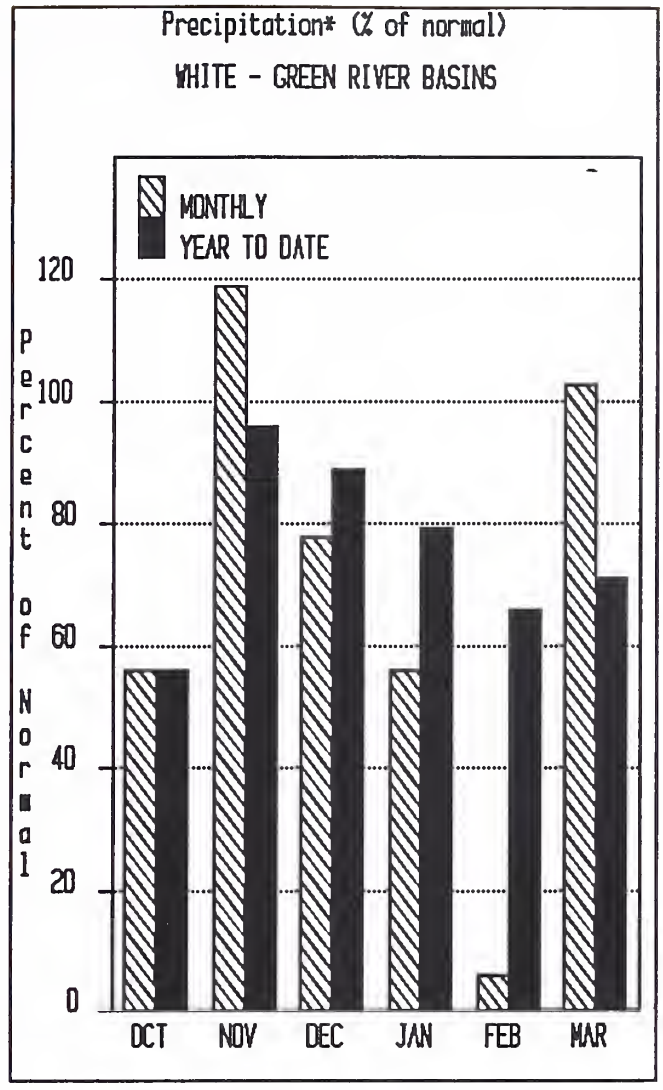
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.



White - Green River Basins





*Based on selected stations

March precipitation was 103% of normal, bringing the water year to date to 71% of average. Temperatures were two degrees above average for March. Summer runoff is forecasted to be 68% on the Green River and 71% on the Cedar River, the Rex River at 72%, the South Fork of the Tolt River at 75% and the Cedar River at Cedar, 69%. April 1 snowpack was 79% of normal in the White River Basin and 68% in the Green River Basin. Water content on April 1 at the Stampede Pass SNOTEL, at an elevation of 3860 feet, was 33.1 inches. This site has a April 1 average of 44.4 inches.

For more information contact your local Soil Conservation Service office.

WHITE - GREEN RIVER BASINS

Streamflow Forecasts - April 1, 1993

Forecast Point	Forecast Period	<<------- Drier ------ Future Conditions ------- Wetter ------>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
GREEN RIVER below Howard Hanson Dam	APR-JUL	133	158	175	68	192	215	257
	APR-SEP	149	176	195	68	215	240	285
	APR-JUN	122	145	160	68	175	198	234
CEDAR RIVER near Cedar Falls	APR-JUL	42	50	55	71	60	68	77
	APR-SEP	47	55	60	71	65	73	85
	APR-JUN	35	43	48	71	53	61	68
REX RIVER nr Cedar Falls	APR-JUL	14.0	17.0	20	72	22	26	27
	APR-SEP	15.0	19.0	22	72	24	28	30
	APR-JUN	13.0	16.0	18.0	73	21	24	25
CEDAR RIVER at Cedar Falls	APR-JUL	34	46	55	67	64	76	82
	APR-SEP	37	49	57	68	64	76	83
	APR-JUN	33	46	54	68	63	75	80
SOUTH FORK TOLT RIVER near Index	APR-JUL	9.0	10.4	11.4	75	12.4	13.8	15.2
	APR-SEP	10.3	12.2	13.4	75	14.6	16.5	17.8
	APR-JUN	7.2	8.8	9.8	75	10.8	12.4	13.1

WHITE - GREEN RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

WHITE - GREEN RIVER BASINS
Watershed Snowpack Analysis - April 1, 1993

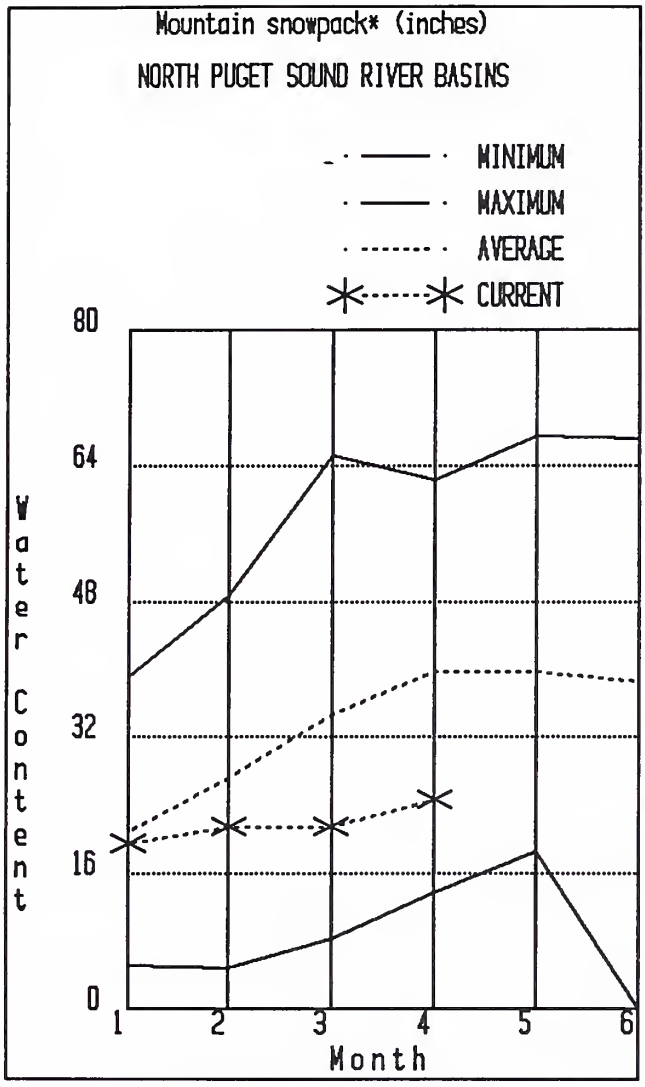
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
White River	3	123	79
Green River	2	166	68
Cedar River	2	0	45

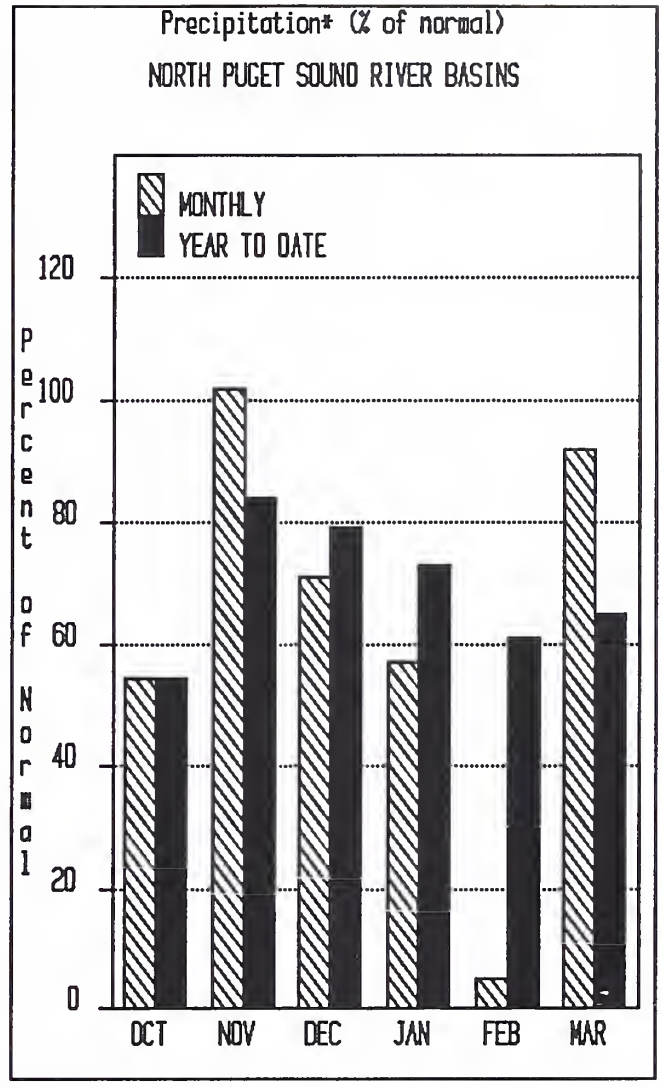
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

North Puget Sound River Basins





*Based on selected stations

March temperatures were three degrees above normal. The warmer weather brought several area streams to flood levels. Precipitation for March was 92% of average with a water year to date at 65% of normal. April 1 snow cover in the Skagit River was 65% of normal, and on the Baker River it was 63%. March streamflow in the Skagit River was 97% of average. Forecast for the Skagit River streamflow is 73% of normal for the spring and summer period. Other forecast points include the Baker River at 74% and Thunder Creek at 76%. Rainy Pass SNOTEL at elevation 4780 feet, had 26.0 inches of water content; normal April 1 water content is 38.0 inches. April 1 reservoir storage was above average, with Ross Lake reservoir at 205% of normal and 44% of capacity.

For more information contact your local Soil Conservation Service office.

NORTH PUGET SOUND RIVER BASINS

Streamflow Forecasts - April 1, 1993

Forecast Point	Forecast Period	<<------ Drier ------ Future Conditions ------- Wetter ------>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (Most Probable) (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
THUNDER CREEK near Newhalem	APR-JUL	149	164	175	76	186	200	230
	APR-SEP	225	240	250	76	260	275	328
	APR-JUN	87	103	113	76	124	139	149
SKAGIT RIVER at Newhalem (2)	APR-SEP	1240	1450	1600	73	1750	1960	2185
	APR-JUL	1040	1220	1340	73	1460	1640	1830
	APR-JUN	800	935	1030	73	1120	1260	1410
BAKER RIVER near Concrete	APR-JUL	520	580	620	74	660	720	836
	APR-SEP	665	740	790	74	840	915	1064
	APR-JUN	360	420	460	75	500	560	611

NORTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
ROSS	1404.1	611.5	745.7	298.0
DIABLO RESERVOIR	90.6	86.8	86.8	---
GORGE RESERVOIR	9.8	8.2	8.0	---

NORTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - April 1, 1993

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
Snohomish River	6	174	64
Skagit River	13	89	65
Baker River	9	149	63

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

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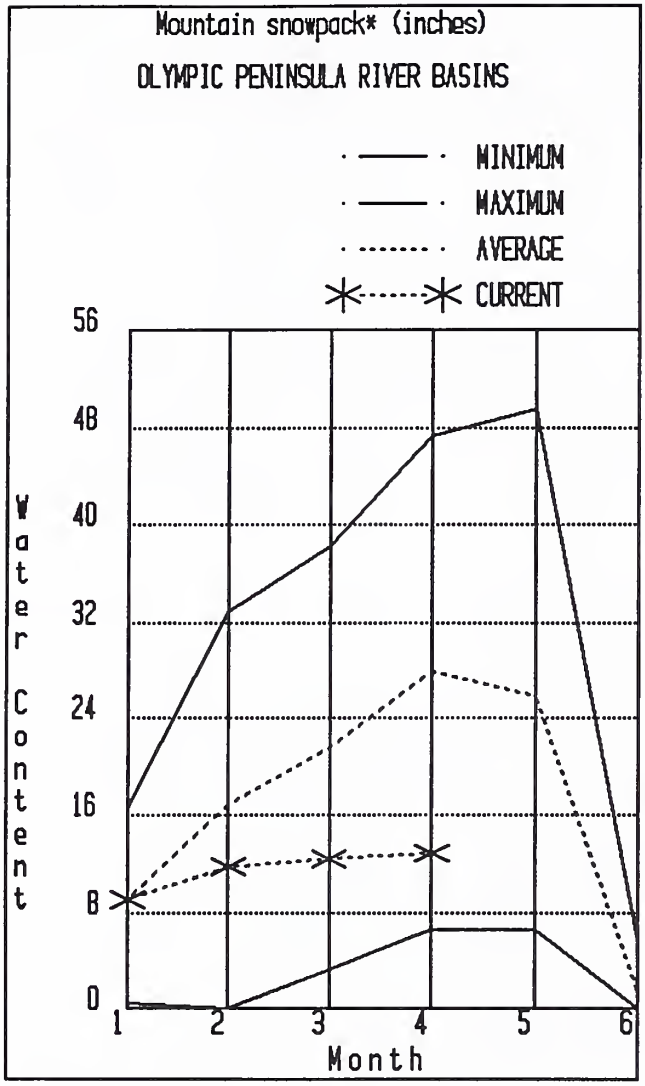
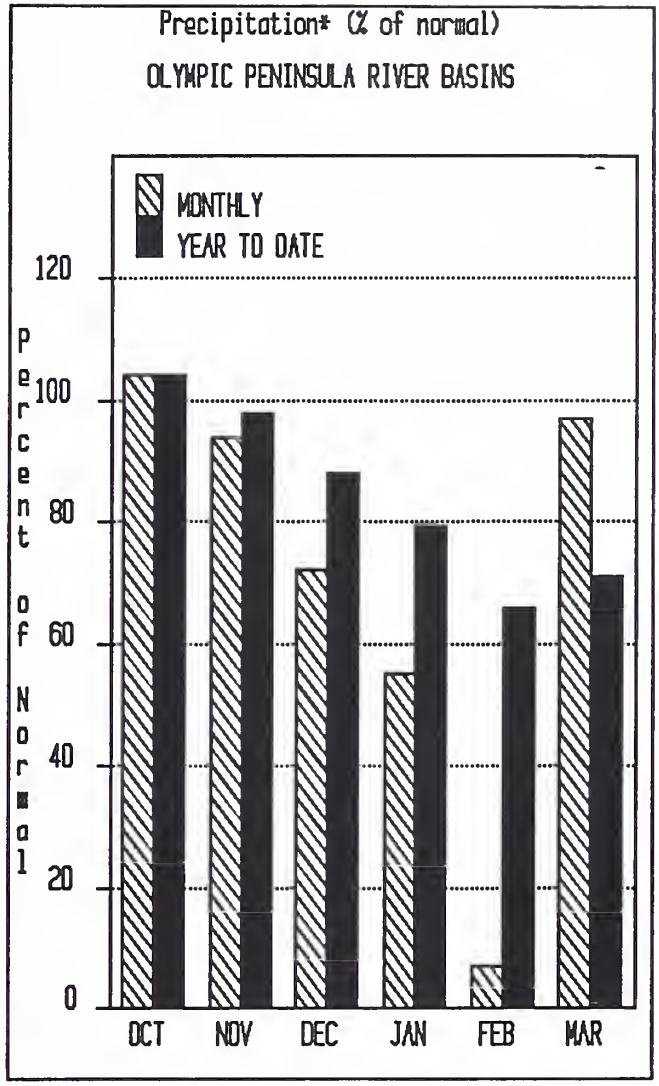
Olympic Peninsula River Basins





*Based on selected stations

March precipitation was 97% of average, with water year-to-date precipitation accumulation at 71% of normal. March precipitation at Quillayute was 10.96 inches, normal for the month is 11.05 inches. April 1 snow cover in the Olympic Basin is much below normal, with the Elwah at 37% of average and the Dungeness at 42%. April forecasts of runoff for streamflow in the basin are for 68% of average on the Dungeness River and the Elwha River. The Big Quilcene can expect below normal runoff this summer. The Mount Crag SNOTEL near Quilcene had 20.0 inches on April 1, last year it had 12.6 inches. Temperatures were two degree above normal for March.

For more information contact your local Soil Conservation Service office.

OLYMPIC PENINSULA RIVER BASINS

Streamflow Forecasts - April 1, 1993

Forecast Point	Forecast Period	<<------ Drier ------ Future Conditions ------ Wetter ------>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DUNGENESS RIVER nr Sequim	APR-SEP	84	99	109	68	119	134	160
	APR-JUL	69	81	89	68	97	110	131
	APR-JUN	52	61	67	68	73	82	98
ELWHA RIVER nr Port Angeles	APR-SEP	255	310	345	69	380	435	502
	APR-JUL	215	255	285	68	315	355	417

OLYMPIC PENINSULA RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

OLYMPIC PENINSULA RIVER BASINS
Watershed Snowpack Analysis - April 1, 1993

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Elwha River	1	1367	37
Morse Creek	1	87	52
Dungeness River	1	128	42
Quilcene River	0	0	0
Wynoochee River	0	0	0

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

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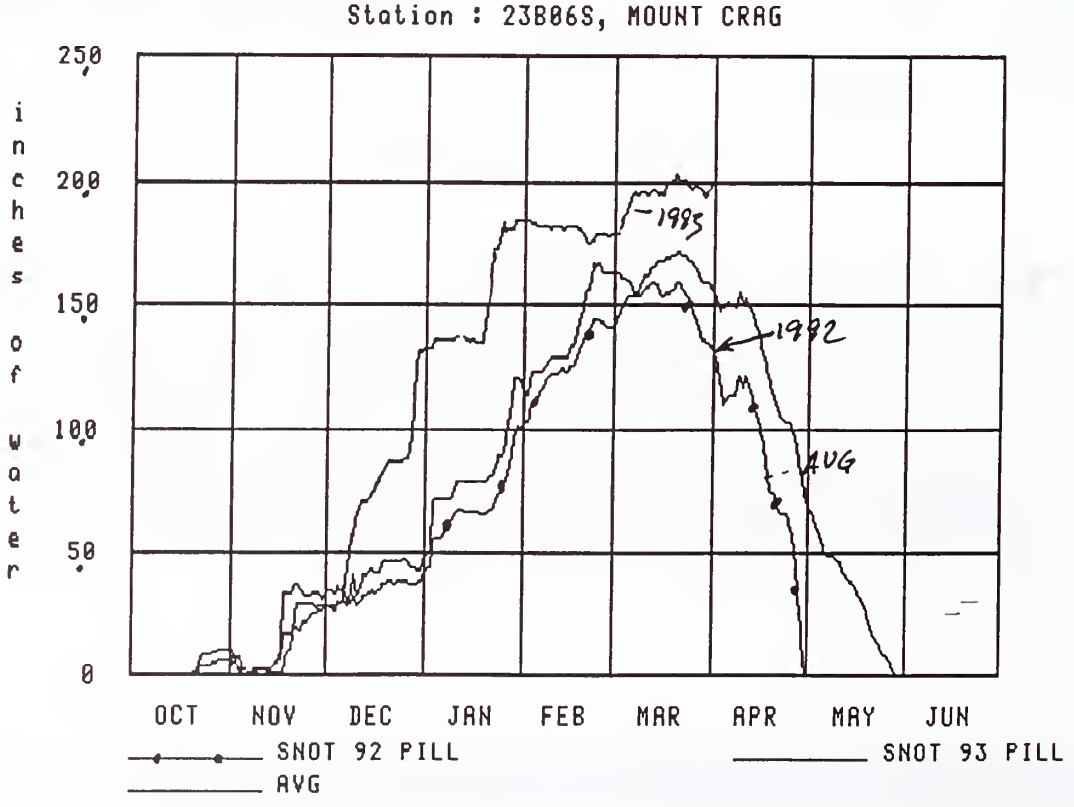

In addition to basin outlook reports, a Water Supply Forecast for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209-3489.

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The Following Organizations Cooperate With The Soil Conservation Service In Snow Survey Work

Canada:
Ministry of the Environment, Water Investigations Branch, Victoria, British Columbia

States:
Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:
Department of the Army
  Corps of Engineers
U.S. Department of Agriculture
  Forest Service
U.S. Department of Commerce
  NOAA, National Weather Service
U.S. Department of the Interior
  Bonneville Power Administration
  Bureau of Reclamation
  Geological Survey
  National Park Service
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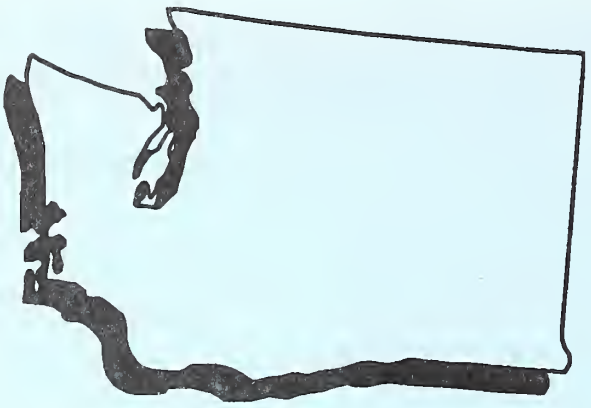
Washington Water Power Company
Snohomish County P.U.D.
Colville Confederated Tribes
Spokane County
Yakima Indian Nation

Private:
Okanogan Irrigation District
Wenatchee Heights Irrigation District
Newman Lake Homeowners Association

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.



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Washington Basin Outlook Report

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